FINAL
GROUNDWATER MONITORING REPORT
FIRST QUARTER 2006
PACIFIC AIRMOTIVE CORPORATION
2940 AND 3003 NORTH HOLLYWOOD WAY
BURBANK, CALIFORNIA

Prepared for:

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TC# 16753-0601 / May 2006

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May 31, 2006

Ms. Rachel Loftin
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Dear Rachel:

Enclosed please find one (1) copy of the Groundwater Monitoring Report, First Quarter 2006, Pacific Airmotive Corporation, 2940 and 3003 North Hollywood Way, Burbank, California. Please do not hesitate to contact me if you have any questions or comments.

Regards,

Lisa A. Hamilton
Manager, MidAtlantic/Southeast/Western Regions

cc Linda Gertler, LMC (w/out enclosure)
Ken Martins, CH2M Hill (with enclosure)
Dixon Oriola, LARWQCB (with enclosure)
Alex Lapostol, E2 (with enclosure)

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TC# 17653-0601

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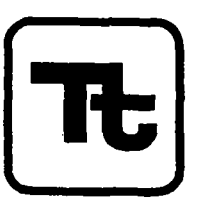

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1.0 INTRODUCTION

On behalf of Lockheed Martin Corporation (LMC), Tetra Tech Inc. (Tetra Tech) has prepared this groundwater monitoring report for two Pacific Airmotive Corporation (PAC) properties within the Burbank Operable Unit (BOU) in Burbank, California (*see Figure 1*). LMC is performing work requested by the U.S. Environmental Protection Agency (EPA) in a letter directed to General Electric (GE) dated October 20, 2005 due to a settlement agreement between PAC, an indirect wholly-owned subsidiary of GE, and LMC.

In a letter dated October 20, 2005, the EPA requested GE to initiate four quarters of groundwater sampling of the eight (8) existing wells at the PAC properties based on previous facility operations, detection of constituents, lack of current groundwater results, and recent regulatory concerns related to potential sources associated with emergent chemicals within the BOU. The EPA required analysis of the groundwater for volatile organic compounds (VOCs), 1,2,3-trichloropropane (1,2,3-TCP), Title 22 metals, including thallium and dissolved (total) chromium, hexavalent chromium, 1,4-dioxane, N-Nitrosodimethylamine (NDMA), perchlorate, nitrate/nitrite, common cations and anions, dissolved oxygen, sulfide, and dissolved iron and manganese.

1.1 SITE LOCATION AND DESCRIPTION OBJECTIVE

The PAC properties are located at 2940 and 3003 North Hollywood Way within the north-central portion of the BOU. The property at 2940 North Hollywood Way was identified as the Main Facility, and the property at 3003 North Hollywood Way was identified as the Jet Engine Test Cell Facility. Both facilities were historically associated with the manufacturing, design, and repair of aircrafts and aircraft engines. Structures located on both PAC properties are currently vacant.

1.2 OBJECTIVE

The purpose of this groundwater monitoring report is to comply with the provisions of the EPA October 20, 2005 letter. The objective of this monitoring report is to present

Figure 1 - BOU Boundary Map

groundwater data collected during the First Quarter 2006. The groundwater data is being collected to assist the EPA in assessing the current groundwater quality and conditions at the above mentioned monitoring wells and within the BOU. The quarterly monitoring report presents field, laboratory analytical results, and quality control data collected during groundwater level and water quality monitoring.

1.3 REPORT ORGANIZATION

The First Quarter 2006 quarterly groundwater monitoring report has been organized into the following six (6) sections:

Section 1. *Introduction*: introduces the project and presents the objectives and report format.

Section 2. *Subsurface Conditions*: presents the site geologic and hydrogeologic setting.

Section 3. *Description of Historical Areas of Concern*: identifies the areas of groundwater concern beneath the PAC properties.

Section 4. *Groundwater Monitoring Procedures*: summarizes the groundwater monitoring activities, groundwater measurements, and laboratory analysis conducted.

Section 5. *Groundwater Analytical Results*: discusses groundwater monitoring results.

Section 6. *References*: lists the references used to prepare this quarterly groundwater monitoring report.

2.0 SUBSURFACE CONDITIONS

2.1 GEOLOGY

The PAC properties are located in the southeastern portion of the San Fernando Valley (SFV) between the Santa Monica and Verdugo mountains. The SFV is located on the northwestern block of the Los Angeles Basin within the Transverse Ranges Geomorphic Province, an east-west trending unit composed of subparallel ranges separated by alluviated, synclinal valleys and prominent faults. The SFV is bordered to the north by the Santa Susana and San Gabriel mountains, to the east by the Verdugo Mountains, to the south by the Santa Monica Mountains, and to the west by the Simi Hills. These uplands are composed of crystalline bedrock of Precambrian to Mesozoic in age and sedimentary units from Cretaceous to Pleistocene in age. The crystalline bedrock and sedimentary units were eroded from the uplands during the Quaternary Period and deposited as more than 2,000 feet of alluvium in the SFV. The only major structural feature within close proximity to the PAC properties is the Verdugo Fault, which is approximately one mile to the northeast and trends northwesterly along the base of the Verdugo Mountains (Tetra Tech, 2006).

2.2 HYDROGEOLOGY

The PAC properties are located within the San Fernando Basin (SFB), one (1) of four (4) distinct groundwater basins that encompass the entire watershed of the Los Angeles River and its tributaries within the SFV (also known as the Upper Los Angeles River Area – ULARA). Groundwater within the eastern portion of the SFB flows mainly through two sedimentary units: 1) Older Alluvium of Pleistocene age and 2) Younger Alluvium of Holocene age. The Older Alluvium is comprised of sand, gravel, and boulders in the northwestern portion of the BOU to interbedded silt and sand in the eastern and southern portions of the BOU. The Younger Alluvium is comprised of coarse sand, gravel, and cobbles interbedded with finer-grained units of sand, silty sand, sandy silt, silty clay, and minor gravelly sand. Groundwater flow within the Older Alluvium has been observed to

be locally semi-confined to confined. The Younger alluvium is generally unconfined to semi-confined, depending upon the location and thickness of fine grained interbeds (Tetra Tech, 2006).

The aquifer in the Younger Alluvium within the BOU has been divided into five hydrostratigraphic units (HSU) based on electrical resistivity responses in geophysical logs (Hargis & Associates, 1991; Simon Hydro-Search, 1993. The five HSUs of the Younger Alluvium are identified from upper to lower as A', X, A, Y, and B. The A', A, and B units are generally composed of coarser-grained material (coarse sands, gravels, and cobbles). The X and Y HSUs separate the three (A', A, B) HSUs listed above and consist of relatively finer-grained material including sand, silty sand, and silt. Based on the stratigraphic position of the units and the groundwater gradient, the A', X, or A HSU may locally represent water table conditions depending on geographic location within the project area.

Groundwater flow direction in the SFB is generally toward the southeast. Groundwater velocities in the BOU range from approximately 300 to 900 feet per year (ULARA, 2005).

3.0 DESCRIPTION OF HISTORICAL AREAS OF CONCERN

After reporting a jet fuel spill to the Los Angeles Regional Water Quality Control Board (LA-RWQCB) in 1987, PAC agreed to install MW-1 and MW-2 at the Jet Engine Test Facility downgradient of the location of the fuel spill. In 1992, in an effort by the LA-RWQCB to assess the groundwater analytes underlying the PAC properties, monitoring well MW-3 was installed at the Jet Engine Test Cell Facility, and wells MW-4 through MW-8 were installed at the Main Facility (*see Figure 2*).

The EPA issued a Unilateral Administrative Order (UAO) in 1994 which required PAC to perform soil and groundwater investigations. As part of the soil investigation, PAC conducted soil gas surveys across the PAC properties to assess the nature and extent of vapor and non-vapor phase analytes in the unsaturated zone. Since 1997, when PAC became an indirect wholly owned subsidiary of GE, PAC, through GE technical and legal representatives acting on its behalf, has been working with the LA-RWQCB to further investigate and remediate PAC properties (Tetra Tech, 2006).

Semi-annual groundwater monitoring from July 1987 through January 1989 indicated elevated levels of trichloroethene (TCE) and tetrachloroethene (PCE) in monitoring wells MW-1 and MW-2 (*see Table 3-1*). Groundwater monitoring from June 1992 through April 1995 showed PCE and TCE concentrations exceeding regulatory maximum contaminant levels (MCLs) of 5 micrograms per liter (μg/L) in wells MW-3 through MW-8 (*see Table 3-2*). Monitoring wells MW-1 and MW-2 were both dry during this time period.

Figure 2 - PAC Wells Location Map

Table 3-1
Historical Analysis From 1987 – 1989
(reported in µg/L)

	6/18/87		12/29/87		6/14/88		12/15/88	
	PCE	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**
MCL	5	5	5	5	5	5	5	5
Composite of MW-1 & MW-2	***130***	***32***						
MW-1	***130****	***32****	***67***	***24***	***160***	***31***	***75***	***12***
MW-2	***130****	***32****	***190***	***41***	***200***	***33***	***130***	***15***

Notes: All concentrations in ug/L
Bold – Result above MCL
* Result based on composite sample

Table 3-2
Historical Analysis From 1992 – 1995
(Reported in µg/L)

Well ID	9/15-16/92		12/16-19/92		7/19-20/94		12/25-26/94		1/30-31/95	
	PCE	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**	**PCE**	**TCE**
MCL	5	5	5	5	5	5	5	5	5	5
MW-1	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-2	dry	dry	dry	dry	dry	dry	dry	dry	dry	dry
MW-3	***39***	***11***	***47***	***12***	***18***	***6.4***	***58***	***8.8***	***63***	***7.8***
MW-4	***460***	***46***	***400***	***41***	***22***	***6.3***	***25***	3.6	***13***	2.2
MW-5	***2100***	***440***	***64***	***13***	***40***	***8.9***	***150***	***24***	***49***	***6.9***
MW-6	***910***	***250***	***490***	***120***	***39***	***7.4***	***1300***	***170***	***800***	***110***
MW-7	***87***	***18***	***420***	***49***	***43***	***11***	***2000***	***88***	***490***	***19***
MW-8	***1700***	***160***	***1200***	***94***	***21***	***5.1***	***1800***	***170***	***1800***	***130***

Notes: ***Bold*** – Result above MCL

4.0 GROUNDWATER MONITORING PROCEDURES

4.1 GROUNDWATER LEVEL MEASUREMENTS

Water levels in the eight (8) monitoring wells were measured using a water level meter consisting of a liquid sensor attached to a measuring tape that was lowered down into the well until water was encountered. Water level measurements were recorded on well purging forms (*see Appendix A*) and are presented in Table 4-1. Groundwater monitoring wells MW-1 and MW-2 were dry. Groundwater elevation contours are shown on Figure 3. The groundwater flow direction is to the east. Based upon available boring logs, MW-4 through MW-8 are located in the water table.

Table 4-1
Summary of Groundwater Elevations

Well Number	HSU	Top of Casing (TOC) Elevation (feet msl)	Groundwater Depth from TOC (feet)	Groundwater Elevation (feet msl)
MW-1	NA	NA	dry	dry
MW-2	NA	NA	dry	dry
MW-3	NA	NA	244.30	NA
MW-4	A*	700.15	230.25	469.90
MW-5	A*	701.96	232.04	471.92
MW-6	A*	700.95	230.50	470.45
MW-7	A*	696.16	228.06	468.10
MW-8	A*	NA	233.55	NA

Note: * Based upon boring logs.
HSU – Hydrostatic unit.
TOC – Top of casing.
msl – Mean sea level.
NA – Not available.

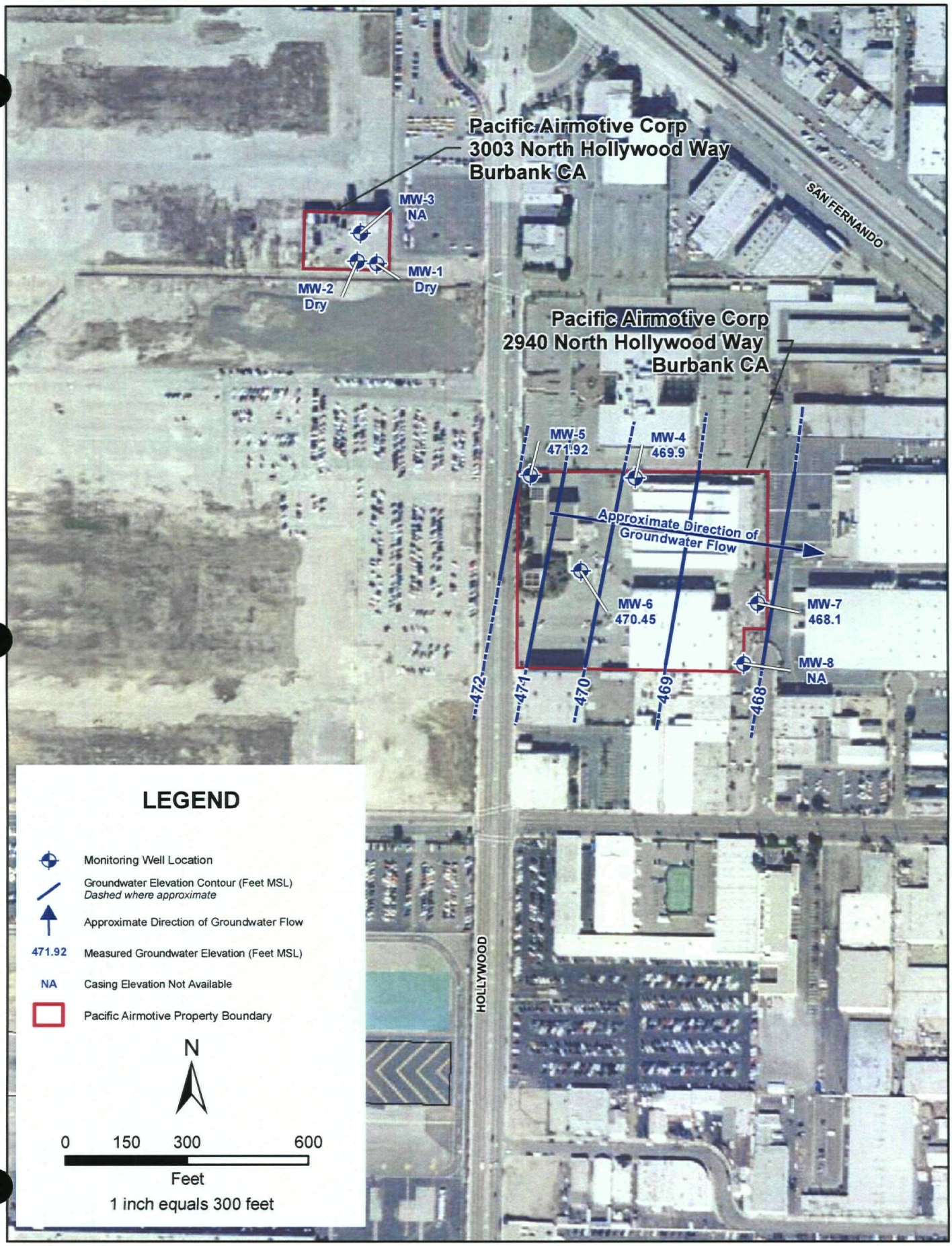

Figure 3 - First Quarter 2006 WT HSU's Groundwater Elevation, PAC

4.2 WELL DEVELOPMENT

Because groundwater monitoring and sampling had not been conducted at the eight (8) PAC wells since 1995, well development was required to optimize groundwater production within each well prior to sampling the wells in the First Quarter of 2006. Initial measurements of water level, well depth, and headspace air monitoring readings for volatile organic compounds (VOCs) using a photoionization detector (PID) were recorded on a field data log sheet. Surging was conducted by raising and lowering a bailer in wells MW-3 through MW-8 for approximately 10 minutes. Then, using the same bailer, approximately 100 gallons of water was bailed from each well. The purged water was containerized in 55-gallon drums and left onsite for proper profiling and disposal. Groundwater parameters including water temperature, pH, conductivity, dissolved oxygen, and turbidity were measured throughout the bailing process using a field water quality monitoring system. Stabilization of these parameters served as an indication of groundwater representative of the formation. After parameter stabilization was achieved, bailing was stopped. Water level measurements were recorded again at the completion of the development activities.

4.3 WELL PURGING AND SAMPLING

Prior to collecting the groundwater samples, a minimum of three well volumes was purged from monitoring wells MW-3, MW-5 through MW-8 using a submersible pump. Groundwater monitoring wells MW-1 and MW-2 were dry and MW-4 was under standing water. EPA agreed that MW-4 would not be sampled during the event and would be sampled in subsequent quarterly events. Water temperature, pH, conductivity, dissolved oxygen, and turbidity were measured throughout the purging process using a field water quality monitoring system. Stabilization of these parameters served as an indication of water representative of the formation, and their values were recorded on well purging forms (*see Appendix A*). The purged water was containerized in 55-gallon drums and staged onsite for proper profiling and disposal.

The groundwater samples were collected using a down-hole submersible pump for monitoring wells MW-3, MW-5 through MW-8. Groundwater samples were collected

from a nozzle attached to the pump hose and placed directly into sample containers provided by the laboratory. Decontamination procedures were followed after each monitoring well was sampled to avoid cross-contamination between wells. The water samples were placed on ice in a cooler to maintain a temperature of $^{+}/_{-}$ 4°C pending delivery to Calscience Environmental Laboratories, Inc., a State of California certified laboratory for analysis. A completed chain-of-custody form accompanied the shipment of samples to the laboratory to ensure accountability for the samples from the time of collection to the time of analysis.

4.4 LABORATORY ANALYSIS

Groundwater samples were collected from the five (5) groundwater monitoring wells at the PAC facility. Samples analyzed for dissolved metals were filtered in the field using a disposable filter.

The EPA has requested that groundwater samples from the PAC wells be analyzed for specific constituents using analytical methods consistent with those of the BOU groundwater sampling events as follows:

- VOCs, including MTBE, using EPA Method 8260B;
- 1,2,3-TCP, using EPA Method 504.1;
- Title 22 metals, including thallium and dissolved (total) chromium, using EPA Method 6010B/7470A;
- Hexavalent chromium, using EPA Method 218.6;
- 1,4-dioxane, using GC/SM EPA Method 8270 SIM;
- NDMA, using EPA Method 1625C(M);
- Perchlorate, using EPA Method 314.0;
- Nitrate/nitrite, using EPA Method 300.0;
- Cations, using EPA Method 6010B;

- Anions, using EPA Method 300.0;
- Dissolved oxygen, using EPA Method SM 4500-O G;
- Sulfide, using EPA Method 376.2; and
- Dissolved iron and manganese using EPA 3005A Filter/EPA 200.8.

5.0 GROUNDWATER ANALYTICAL RESULTS

Based on the data collected during the First Quarter 2006 groundwater sampling event, compounds were reported in the groundwater samples above their respective MCL or California drinking water notification level (CDWNL). The MCL or CDWNL concentrations are based on the lowest value in "A Compilation of Water Quality Goals, California Regional Water Quality Control Board, Central Valley Region," dated September 2004. Copies of the laboratory analytical data reports are included in Appendix B. A summary of the analytes detected is provided in Tables 5-1 through 5-6. A summary of the analytical results is presented in the following subsections.

5.1 VOC ANALYTICAL RESULTS

Groundwater samples were collected from five (5) groundwater monitoring wells and analyzed for VOCs. A summary of the analytical results are presented in Table 5-1 and discussed below:

- **Acetone** was detected in one (1) groundwater sample (MW-5) and estimated in one (1) groundwater sample (MW-7) with concentrations of 13 µg/L and 9.8 µg/L, respectively.
- **Bromo-dichloromethane** was estimated in one (1) groundwater samples (MW-5) with a concentration of 0.33 µg/L.
- **Carbon Tetrachloride** was detected in two (2) groundwater samples (MW-5 and MW-6) with concentrations of 1.1 µg/L and 2.2 µg/L, respectively.
- **Chloroform** was detected in two (2) groundwater samples (MW-5 and MW-6) with concentrations of 1.6 µg/L (MW-5) and 2.0 µg/L (MW-6) and estimated in three (3) groundwater samples (MW-3, MW-7, and MW-8) with concentrations ranging from 0.61 µg/L (MW-8) to 0.89 µg/L (MW-3).
- **Methylene Chloride** was estimated in one (1) groundwater sample (MW-8) with a concentration of 3.6 µg/L.

- **Tetrachloroethene** was detected in all groundwater samples with concentrations ranging from 29 µg/L (MW-3) to 130 µg/L (MW-6).
- **1,2-Dichloroethane** was estimated in two (2) groundwater samples (MW-5 and MW-6) with concentrations of 0.32 µg/L (MW-5) and 0.43 µg/L (MW-6), respectively.
- **1,1-Dichloroethane** was detected in three (3) groundwater samples (MW-3, MW-5, and MW-6) with concentrations ranging from 1.1 µg/L (MW-3) to 1.9 µg/L (MW-5) and estimated in two (2) groundwater samples (MW-7 and MW-8) with concentrations of 0.69 µg/L and 0.49 µg/L, respectively.
- **1,1,2-Trichloro-1,2,2-trifluoroethane** was estimated in all groundwater samples with concentrations ranging from 0.74 µg/L (MW-6) to 1.8 µg/L (MW-5).
- **Trichloroethene** was detected in all groundwater samples with concentrations ranging from 8.3 µg/L (MW-3) to 69 µg/L (MW-6).

A review of the VOC analytical data reveals that three (3) compounds were detected above their respective MCL. Carbon tetrachloride was detected above the MCL of 0.5 µg/L in groundwater samples MW-5 (1.1 µg/L) and MW-6 (2.2 µg/L). Tetrachloroethene was detected above the MCL of 5 µg/L in all groundwater samples ranging from 29 µg/L (MW-3) to 130 µg/L (MW-6). Trichloroethene was detected above the MCL of 5 µg/L in all groundwater samples ranging from 8.3 µg/L (MW-3) to 69 µg/L (MW-6).

Table 5-1
Summary of Detected VOCs
Analytical Results
EPA Method 8260B
(reported in µg/L)

Well ID	Acetone	Bromo-dichloromethane	Carbon Tetrachloride	Chloroform	Chloromethane	Methylene Chloride	Tetrachloroethene	1,2-Dichloroethane	1,1-Dichloroethene	1,1,2-Trichloro-1,2,2-trifluoroethane	Trichloroethene
MCL	**NA**	**80** [1]	**0.5** [1]	**80** [1]	**NA**	**NA**	**5** [2]	**0.5** [2]	**6** [2]	**1,200** [2]	**5** [2]
MW-3	<6.1	<0.27	<0.42	0.89[J]	<1.8	<2.6	29	<0.22	1.1	1.1[J]	8.3
MW-5	13	0.33[J]	1.1	1.6	<1.8	<2.6	75	0.32[J]	1.9	1.8[J]	32
MW-6	<6.1	<0.27	2.2	2	<1.8	<2.6	130	0.43[J]	1.8	0.74[J]	69
MW-7	9.8[J]	<0.27	<0.42	0.8[J]	<1.8	<2.6	49	<0.22	0.69[J]	0.86[J]	18
MW-8	<6.1	<0.27	<0.42	0.61[J]	<1.8	3.6[J,B]	54	<0.22	0.49[J]	0.79[J]	23

Note:
[1] US EPA MCL
[2] California Primary MCL
[B] Analyte was present in the associated method blank.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
MCL = Maximum contaminant level.
NA = Not available.

5.2 EMERGENT CHEMICALS ANALYTICAL RESULTS

Groundwater samples were collected from the five (5) groundwater monitoring wells and analyzed for 1,4-dioxane, NDMA, and 1,2,3-TCP. A summary of the analytical results are presented in Table 5-2 and discussed below:

- **1,4-Dioxane** was not detected in any of the groundwater samples above the laboratory method detection limit.
- **NDMA** was detected in all groundwater samples with concentrations ranging from 0.0071 µg/L (MW-7) to 0.170 µg/L (MW-6).
- **1,2,3-TCP** was detected in all groundwater samples with concentrations ranging from 0.018 µg/L (MW-7) to 0.23 µg/L (MW-3).

A review of the emergent chemical analytical data reveals that two (2) compounds were detected above their respective CDWNL. NDMA was detected above the CDWNL of

0.01 µg/L in groundwater samples MW-5, MW-6 and MW-8. The compound 1,2,3-TCP was detected above the CDWNL of 0.005 µg/L in all five groundwater samples.

Table 5-2
Emergent Chemicals Analytical Results
(results in µg/L)

Well ID	1,4-Dioxane by EPA Method 8270 SIM	NDMA by EPA Method 1625C(M)	1,2,3-TCP by EPA Method 504.1
CDWNL	**3**	**0.01**	**0.005**
MW-3	<0.40	0.018	0.23
MW-5	<0.40	0.064	0.14
MW-6	<0.40	0.170E	0.02
MW-7	<0.40	0.0071	0.018
MW-8	<0.40	0.081	0.028[B]

Note: [B] Analyte was present in the associated method blank.
CDWNL = California Drinking Water Notification Level
NDMA = N-Nitrosodimethylamine.
1,2,3-TCP = 1,2,3-Tricloropropane.
MCL = Maximum contaminant level.

5.3 DISSOLVED IRON AND MANGANESE ANALYTICAL RESULTS

Groundwater samples were collected from five (5) groundwater monitoring wells and analyzed for dissolved iron and manganese. A summary of the analytical results are presented in Table 5-3 and below.

- **Dissolved Iron** was estimated in all groundwater samples with concentrations ranging from 0.0409 mg/L (MW-7) to 0.0716 mg/L (MW-8).
- **Dissolved Manganese** was detected in two (2) groundwater samples (MW-3, and MW-6) with concentrations 0.00132 mg/L and 0.00177, respectively and estimated in three (3) groundwater samples (MW-5, MW-7, and MW-8) with concentrations ranging from 0.000447 mg/L (MW-7) to 0.000934 mg/L (MW-8).

A review of the dissolved iron and manganese analytical results reveal that groundwater samples did not contain concentrations that exceeded their respective MCL.

Table 5-3
Dissolved Metals Analytical Results
EPA Method 6010B/7470A
(results in mg/L)

Well ID	Iron	Manganese
MCL	**0.3** [1]	**0.05** [1]
MW-3	0.0436[J,B]	0.00132
MW-5	0.0483[J,B]	0.000801[J]
MW-6	0.0509[J,B]	0.00177
MW-7	0.0409[J,B]	0.000447[J]
MW-8	0.0716[J]	0.000934[J]

Note: [1] US EPA MCL
[B] Analyte was present in the associated method blank.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
MCL = Maximum Contaminant Level.

5.4 INORGANICS ANALYTICAL RESULTS

Groundwater samples were collected from five (5) groundwater monitoring wells and analyzed for Hexavalent chromium, perchlorate, and anions. A summary of the analytical results are presented in Table 5-4 and discussed below:

- **Hexavalent Chromium** was detected in all groundwater samples with concentrations ranging from 0.0017 mg/L (MW-3 and MW-7) to 0.003 mg/L (MW-6).
- **Chloride** was detected in all groundwater samples with concentrations ranging from 39 mg/L (MW-6) to 44 mg/L (MW-7).
- **Nitrite** was not detected in any of the groundwater samples above the laboratory reporting limit.
- **Nitrate** was detected in all groundwater samples with concentrations ranging from 11 mg/L (MW-8) to 12 mg/L (MW-3, MW-5, MW-6, and MW-7).
- **Sulfate** was detected in all groundwater samples with concentrations ranging from 72 mg/L (MW-3) to 78 mg/L (MW-5, MW-6, and MW-7).
- **Sulfide** was not detected in any of the groundwater samples above the laboratory reporting limit.
- **Perchlorate** was estimated in one (1) groundwater sample (MW-5) with a concentration of 0.00077 mg/L.
- **Dissolved Oxygen** was detected in all groundwater samples with concentrations ranging from 7.23 mg/L (MW-6) to 7.59 mg/L (MW-3).

A review of the inorganic analytical data reveals that one (1) compound was detected above the water quality objective. Nitrate was detected above the water quality objective of 10 mg/L in all groundwater samples.

Table 5-4
Inorganics Analytical Results
(results in mg/L)

Well ID	Hexavalent Chromium	Chloride	Nitrite	Nitrate	Sulfate	Sulfide	Perchlorate	Dissolved Oxygen
Regulatory Action Level	**0.05** [1]	**250** [2]	**1** [2]	**10** [2]	**250** [2]	**NA**	**4** [3]	**NA**
MW-3	0.0017[B]	43	<0.015	12	72	<0.042	<0.00059	7.59
MW-5	0.0019[B]	42	<0.015	12	78	<0.042	0.00077[J]	7.26
MW-6	0.003[B]	39	<0.015	12	78	<0.042	<0.00059	7.23
MW-7	0.0017[B]	44	<0.015	12	78	<0.042	<0.00059	7.44
MW-8	0.0018[B]	43	<0.015	11	75	<0.042	<0.00059	7.24

Note:
[1] Hexavalent chromium currently regulated using MCL for total chromium
[2] California Secondary MCL
[3] California Drinking Water Notification Level
[B] Analyte was present in the associated method blank.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
NA = Not available.

5.5 CATIONS ANALYTICAL RESULTS

Groundwater samples were collected from five (5) groundwater monitoring wells and analyzed for cations. A summary of the analytical results are presented in Table 5-5 and below.

- **Calcium** was detected in all groundwater samples with concentrations ranging from 102 mg/L (MW-7 and MW-8) to 115 mg/L (MW-6).
- **Magnesium** was detected in all groundwater with concentrations ranging from 30.6 mg/L (MW-5) to 34.0 mg/L (MW-7).
- **Potassium** was detected in all groundwater samples with concentrations ranging from 5.22 mg/L (MW-8) to 5.97 mg/L (MW-6).
- **Sodium** was detected in all groundwater samples with concentrations ranging from 37.8 mg/L (MW-5) to 39.6 mg/L (MW-7).

Action levels or MCLs have not been established for cations.

Table 5-5
Cations Analytical Results
EPA Method 6010
(results in mg/L)

Well ID	Calcium	Magnesium	Potassium	Sodium
MCL	NA	NA	NA	NA
MW-3	106	32.6B	5.8	39.2B
MW-5	108	31.3B	5.95	38.6B
MW-5A	107	30.6B	5.82	37.8B
MW-6	115	31.9B	5.97	39.0B
MW-7	102	34.0B	5.58	39.6B
MW-8	102	31.0B	5.22	38.2B

Note: [B] Analyte was present in the associated method blank.
MCL = Maximum contaminant level.
NA = Not available.

5.6 TITLE 22 METAL ANALYTICAL RESULTS

Groundwater samples were collected from the five (5) groundwater monitoring wells and analyzed for Title 22 metals. A summary of the analytical results are presented in Table 5-6 and only metal analytes detected above the reporting limit are listed below:

- **Barium** was detected in all groundwater samples with concentrations ranging from 141 µg/L (MW-8) to 150 µg/L (MW-6 and MW-7).
- **Chromium** was detected in all groundwater samples with concentrations ranging from 7.71 µg/L (MW-3) to 10.2 µg/L (MW-6).
- **Zinc** was detected in all groundwater samples with concentrations ranging from 13 µg/L (MW-5) to 26.8 µg/L (MW-8).

A review of analytical results for metals shows that they are all below their respective MCL.

Table 5-6
Title 22 Metals Analytical Results
EPA Method 6010B/7470A
(results in µg/L)

Well ID	Antimony	Arsenic	Barium	Beryllium	Cadmium	Total Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MCL	**6**	**10**	**1000**	**4**	**5**	**50**	**NA**	**1000**	**15**	**2**	**NA**	**100**	**50**	**100**	**2**	**NA**	**5,000**
MW-3	<2.09	<3.08	144	<0.176	<0.35	7.71	<0.696	2.44J,B	<2.36	<0.0672	3.26J,B	<1.37	<2.95	<0.4	<2.33	4.45J	26.4B
MW-5	<2.09	<3.08	144	<0.176	<0.35	8.51	<0.696	2.9J,B	3.37J	<0.0672	4.27J,B	<1.37	6.69J	<0.4	<2.33	4.01J	13B
MW-6	<2.09	<3.08	150	<0.176	<0.35	10.2	<0.696	3.65J,B	<2.36	<0.0672	2.59J,B	1.51J	5.12J	<0.4	<2.33	3.61J	14.7B
MW-7	<2.09	8.51J	150	<0.176	<0.35	8.3	<0.696	5.16B	5.98J	<0.0672	3.52J,B	<1.37	<2.95	<0.4	<2.33	4.82J	17.4B
MW-8	<2.09	<3.08	141	<0.0010	<0.0050	9.64B	<0.696	<1.34	<2.36	<0.0672	<0.80	<1.37	7.12J	<0.4	<2.33	3.83J,B	26.8

Note: * California Drinking Water Notification Level
[B] Analyte was present in the associated method blank.
[J] Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
MCL = Maximum contaminant level.
NA = Not available.

5.7 DATA VERIFICATION AND VALIDATION

Laboratory data underwent verification and validation including laboratory control samples (LCS), matrix spike duplicates (MSD), and method blanks. All samples received by the laboratory were analyzed within holding times specified by USEPA SW-846. Appendix C presents a summary of the quality control and quality assurance (QA/QC).

6.0 REFERENCES

Hargis & Associates, 1991. Installation of Groundwater Monitor Wells Along Vanowen Street, Lockheed Engineering and Science Company, Burbank, California.

Simon Hydro-Search, 1993. Phase I Final Remedial Design Report, Burbank Operable Unit, Vols. V & VI prepared for LESAT, September 30, 1993.

Tetra Tech, 2006. Groundwater Monitoring and Sampling Work Plan, Pacific Airmotive Corporation Properties Located at 2940 and 3003 North Hollywood Way, Burbank, California, March 2006.

U.S. Environmental Protection Agency, October 20, 2005. Letter to General Electric Company.

Watermaster (ULARA), 2005. Watermaster Service in the Upper Los Angeles River Area Los Angeles County 2003 – 2004 Water Year, Upper Los Angeles River Area, May 2005.

TETRA TECH, INC.
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(626) 351-4664
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WELL PURGING FORM
Date: 3/22/06

TC#: ~~[illegible]~~ 17597-3.1A 17597-3 TASK .1A Page 1 of 1

Project: Burbank

Client: Lockheed Martin Corporation Sampler JIM MCKESELL
NORMAN NG

Monitoring Well ID:	MW-8	Static Water Level (ft btoc):	233.81
Duplicate ID:		Total Well Depth (ft):	268.00
Well Diameter:	4"	Water Column (ft):	34.09
Pump Specs.:	3/4HP230VOLT	TOC to ground surface (ft):	
Sample Time:	1545 5GPM	TOC = top of casing (at notch/mark)	intake pump set @241'

WELL PURGING:

~~22.56~~ (water column) x ~~0.66~~ (multiplier) = 22.56 gals (1 casing volume)

22.56 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 68.69 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: START PURGE

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED
1530	20.8	.883	7.65	999 (LOUD)	0.04	10.81	0
1532	20.2	.731	7.55	618	|	10.54	10
1535	20.5	.731	7.47	252	|	10.11	20
1538	20.4	.733	7.49	131	|	10.05	30
1540	20.4	.734	7.48	92	|	10.00	40
1542	~~20.5~~	.733	7.47	65	|	9.96	50
1544	20.5	.733	7.47	50	|	9.95	60
1546	20.5	.733	7.47	25	0.04	9.95	70

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WELL PURGING FORM
Date: 3/29/06

Page 1 of 1

TC#: [redacted] 17597-03
Project: Burbank PAC WELLS
Client: Lockheed Martin Corporation
Sampler: JIM MIKESELL
TOMAV VG

Monitoring Well ID:	MW-5	Static Water Level (ft btoc):	232.28
Duplicate ID:	MW-5A	Total Well Depth (ft):	269.50
Well Diameter:	4"	Water Column (ft):	37.22
Pump Specs.:	3/4 HP 230 VOLT 3" DIA	TOC to ground surface (ft):	
Sample Time:	1005	TOC = top of casing (at notch/mark)	
	4 GPM		

WELL PURGING:
37.22 (water column) x 0.66 (multiplier) = 24.56 gals (1 casing volume)

24.56 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 73.69 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: START PURGE 0945

DUPLICATE AND MS/MSD Required
TRIPPLE THE BOTTLES

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED	
0945	20.0	.750	7.63	446	0.03	11.25	0	
0948	20.4	.747	7.46	348		10.90	10	200
0950	20.6	.748	7.43	245		10.92	20	210
0953	20.7	.745	7.42	160		11.02	30	230
0955	20.7	.746	7.41	81		11.20	40	230
0958	20.7	.746	7.41	38		11.50	50	240
1000	20.4	.743	7.41	30		11.35	60	250
1003	20.6	.742	7.40	19		11.21	70	260
1005							75	265

25216

~~WATER~~
~~[redacted]~~
~~RAW WATER~~

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WELL PURGING FORM
Date: 3/29/06

TC#: [redacted] 17597-03

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler: JIM MIKESELL
MORGAN Hg

Monitoring Well ID: MW-7
Duplicate ID:
Well Diameter: 4"
Pump Specs.: 3/4 x 230 volt 3" dia pump
Sample Time: 0818 4.0 GPM

Static Water Level (ft bloc): 228.3
Total Well Depth (ft): 260.00
Water Column (ft): 31.70
TOC to ground surface (ft):
TOC = top of casing (at notch/mark)

WELL PURGING:
31.70 (water column) x 0.66 (multiplier) = 20.92 gals (1 casing volume)
20.92 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 62.76 gals (total volume to purge)
Note: water column x multiplier = casing volume

Notes:
START PURGE 0802

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED
0802	18.5	0.756	7.49	929	0.04	9.80	0
0805	19.6	0.745	7.39	780	0.03	9.17	~~10~~
0807	19.7	0.748	7.33	450	↓	9.03	20
0810	19.9	0.744	7.34	320		8.79	~~30~~
0812	20.1	0.745	7.32	222		8.89	40
0815	20.1	0.746	7.32	128		8.93	50
0817	20.1	0.744	7.34	80	↓	8.99	60
0818	20.1	0.743	7.33	38	0.03	9.11	65
							~~70~~
							68

UNDER 1 FOOT PLUS RAIN WATER

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WELL PURGING FORM
Date: 3/29/06

TC#: [redacted] 17597-03

Page 1 of 1

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler JIM MIKESELL
NORMAN NG

Monitoring Well ID: MW-4
Duplicate ID:
Well Diameter: 4"
Pump Specs.: 3/4HP 230VOLT 3"DIA
Sample Time:

Static Water Level (ft btoc): 230.60
Total Well Depth (ft): 264.50
Water Column (ft): 33.90
TOC to ground surface (ft):
TOC = top of casing (at notch/mark)

WELL PURGING:
33.90 (water column) x 0.66 (multiplier) = 22.37 gals (1 casing volume)
22.37 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 67.12 gals (total volume to purge)
Note: water column x multiplier = casing volume

Notes:

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED
							0
							10
							20
							30
							40
							50
							60
							70

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Date: 3/30/06

TC#: [redacted] 17597-03

Page 1 of 1

Project: Burbank PAC WELLS
Client: Lockheed Martin Corporation
Sampler: JIM MIKESELL / LORMAN NG

Monitoring Well ID: MW-6
Duplicate ID:
Well Diameter: 4"
Pump Specs.: 3/4 HP / 230V 3" DIA
Sample Time: ~~08200~~ 0822
4 GPM

Static Water Level (ft btoc): 230.75
Total Well Depth (ft): 265.00
Water Column (ft): 34.25
TOC to ground surface (ft):
TOC = top of casing (at notch/mark)

WELL PURGING:
34.25 (water column) x 0.66 (multiplier) = 22.60 gals (1 casing volume)
22.60 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 67.81 gals (total volume to purge)
Note: water column x multiplier = casing volume

Notes: START PURGE 0805

252280

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL PURGED	
0805	17.5	0.945	7.46	999	0.04	9.28	0	
0807	19.5	0.945	7.30	490		9.15	10	30
0810	19.6	0.937	7.29	219		9.18	20	31
0812	19.9	0.922	7.30	115		9.18	30	32
0815	20.0	0.910	7.31	51		9.17	40	33
0817	20.1	0.923	7.33	22		9.29	50	34
0820	20.3	0.922	7.33	15		9.43	60	35
0822	20.4	0.895	7.34	10	0.04	9.49	70	36

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WELL PURGING FORM
Date: 3/30/06

TC#: [redacted] 17597-03

Page 1 of 1

Project: Burbank PAC WELLS

Client: Lockheed Martin Corporation

Sampler: JIM MIKESELL / NORMAN NG

Monitoring Well ID:	MW-3	Static Water Level (ft btoc):	244.30
Duplicate ID:		Total Well Depth (ft):	284.50
Well Diameter:	4"	Water Column (ft):	40.20
Pump Specs.:	3/4 HP 230VOLT 3" DIA 4GPM	TOC to ground surface (ft):	
Sample Time:	1030	TOC = top of casing (at notch/mark)	

WELL PURGING:

40.20 (water column) x 0.66 (multiplier) = 26.53 gals (1 casing volume)

26.53 gals (1 casing volume) x 3 vols (no. of volumes to purge) = 79.59 gals (total volume to purge)

Note: water column x multiplier = casing volume

Notes: START PURGE - 1010

252375

TIME	TEMP (DEG C°)	EC	pH	TURBIDITY and COLOR	SALINITY	DO	TOTAL GAL. PURGED	
1010	20.0	0.91	7.63	714	0.04	9.90	0	38
1013	20.3	0.754	7.45	450	0.03	9.80	10	38
1015	20.4	0.752	7.45	225	0.03	9.75	20	39
1018	20.4	0.753	7.45	143	0.03	9.79	30	40
1020	20.4	0.752	7.45	85	0.03	9.97	40	41
1023	20.4	0.750	7.46	58	0.03	9.35	50	42
1025	20.4	0.750	7.44	47	0.03	9.19	60	43
1028	20.4	0.751	7.43	45	0.03	9.11	70	44
1030	20.4	0.751	7.45	30	0.03	9.33	80	45
							252,500	
							STOP@	
						LAST WELL		

Calscience
Environmental
Laboratories, Inc.

April 08, 2006

Neil Shukla
Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Subject: **Calscience Work Order No.:** **06-03-1770**
Client Reference: **BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/30/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Jason Torres
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/31/2006 3:22:19 PM with batch 060331L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	0.00259	0.00500	0.000800	1	J,B
Barium	0.150	0.010	0.000719	1		Nickel	0.00151	0.00500	0.00137	1	J
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00512	0.0150	0.00295	1	J
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.0102	0.0050	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00361	0.00500	0.000314	1	J
Copper	0.00365	0.00500	0.00134	1	J,B	Zinc	0.0147	0.0100	0.000848	1	B
Lead	ND	0.0100	0.00236	1							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/31/2006 3:24:34 PM with batch 060331L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	0.00326	0.00500	0.000800	1	J,B
Barium	0.144	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00771	0.00500	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00445	0.00500	0.000314	1	J
Copper	0.00244	0.00500	0.00134	1	J,B	Zinc	0.0264	0.0100	0.000848	1	B
Lead	ND	0.0100	0.00236	1							

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-04-008-2,415	N/A	Aqueous	03/31/06	03/31/06	060331L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
Mercury	ND	0.000500	0.0000672	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt. / EPA 7470A Filt.
	Method:	EPA 6010B / EPA 7470A
	Units:	mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 2 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**097-01-003-5,966**	**N/A**	**Aqueous**	**03/30/06**	**03/31/06**	**060330L04F**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Molybdenum	0.00126	0.00500	0.000800	1	J
Arsenic	ND	0.0100	0.00308	1		Nickel	ND	0.00500	0.00137	1	
Barium	ND	0.0100	0.000719	1		Selenium	ND	0.0150	0.00295	1	
Beryllium	ND	0.00100	0.000176	1		Silver	ND	0.00500	0.000400	1	
Cadmium	ND	0.00500	0.000350	1		Thallium	0.00242	0.0150	0.00233	1	J
Chromium	ND	0.00500	0.000350	1		Vanadium	ND	0.00500	0.000314	1	
Cobalt	ND	0.00500	0.000696	1		Zinc	0.00158	0.0100	0.000848	1	J
Copper	0.00239	0.00500	0.00134	1	J	Lead	ND	0.0100	0.00236	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 6010B
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	03/30/06	03/31/06	060330L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	115	0.100	0.00932	1		Potassium	5.97	0.50	0.0561	1	
Magnesium	31.9	0.1	0.00328	1	B	Sodium	39.0	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	03/30/06	03/31/06	060330L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	106	0.100	0.00932	1		Potassium	5.80	0.50	0.0561	1	
Magnesium	32.6	0.1	0.00328	1	B	Sodium	39.2	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	097-01-003-5,966	N/A	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	ND	0.100	0.00932	1		Potassium	ND	0.500	0.0561	1	
Magnesium	0.00427	0.100	0.00328	1	J	Sodium	0.0207	0.500	0.0192	1	J

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

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Analytical Report

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Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 200.8
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0509	0.100	0.00214	1	J,B	Manganese	0.00177	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0436	0.100	0.00214	1	J,B	Manganese	0.00132	0.00100	0.0000189	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-008-705	N/A	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.00469	0.100	0.00214	1	J	Manganese	ND	0.00100	0.0000189	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770
Preparation: EPA 3520B
Method: EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	04/04/06	04/06/06	060404L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	104	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	04/04/06	04/06/06	060404L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	96	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-09-004-558	N/A	Aqueous	04/04/06	04/05/06	060404L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	81	56-123				

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Analytical Report

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Tetra Tech, Inc.		Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	04/03/06	04/05/06	060403L03

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	170	2	0.48	1	E	ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	51	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	04/03/06	04/05/06	060403L03

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	18	2	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	65	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-027-228	N/A	Aqueous	04/03/06	04/05/06	060403L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	78	50-130				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 1 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	2.2	0.5	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	2.0	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	130	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	0.74	10.00	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	69	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	0.43	0.50	0.22	1	J	Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	1.8	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	101	74-140		1,2-Dichloroethane-d4	102	74-146	
Toluene-d8	95	88-112		1,4-Bromofluorobenzene	96	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH ilac

Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 2 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	0.89	1.0	0.22	1	J	1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	29	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.1	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	8.3	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	1.1	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	102	74-140		1,2-Dichloroethane-d4	106	74-146	
Toluene-d8	97	88-112		1,4-Bromofluorobenzene	95	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 3 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LTB-033006A	06-03-1770-3	03/30/06	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	8.1	10.0	6.1	1	J	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	104	74-140				1,2-Dichloroethane-d4	106	74-146			
Toluene-d8	95	88-112				1,4-Bromofluorobenzene	95	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	03/30/06
Work Order No:	06-03-1770
Preparation:	EPA 5030B
Method:	EPA 8260B
Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 4 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LFB-033006A	06-03-1770-4	03/30/06	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	25	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	0.29	0.50	0.26	1	J	2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	10	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	0.92	1.0	0.35	1	J
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	0.21	1.0	0.21	1	J
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	103	74-140				1,2-Dichloroethane-d4	106	74-146			
Toluene-d8	94	88-112				1,4-Bromofluorobenzene	95	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1770
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 5 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-17,502	N/A	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	106	74-140				1,2-Dichloroethane-d4	110	74-146			
Toluene-d8	99	88-112				1,4-Bromofluorobenzene	96	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

EPA 8260B Tentatively Identified Compound List

Work Order	CEL Sample	Client ID	Q	Compound	CAS NUMBER	RT	On Column Conc. ug/L	Estimated Conc. ug/L
06-03-1770				No TICs Found				

Q Qualifier
RT Retention Time

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	03/30/06
Work Order No:	06-03-1770
Preparation:	EPA 5030B
Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6	06-03-1770-1	03/30/06	Aqueous	04/03/06	04/03/06	060403L01

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.020	0.005	0.00081	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-3	06-03-1770-2	03/30/06	Aqueous	04/03/06	04/03/06	060403L01

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.23	0.02	0.0041	5		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-022-216	N/A	Aqueous	04/03/06	04/03/06	060403L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	ND	0.0050	0.00081	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-6	06-03-1770-1	03/30/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	3.0	0.2	0.0050	1	B	ug/L	N/A	03/30/06	EPA 218.6
Chloride	39	10	0.055	10		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	03/30/06	EPA 300.0
Sulfate	78	10	0.069	10		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/06/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	N/A	03/31/06	EPA 376.2
Dissolved Oxygen	7.23	0.01	0.0100	1		mg/L	N/A	03/30/06	SM 4500-O G

MW-3	06-03-1770-2	03/30/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.7	0.2	0.0050	1	B	ug/L	N/A	03/30/06	EPA 218.6
Chloride	43	10	0.055	10		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	03/30/06	EPA 300.0
Sulfate	72	10	0.069	10		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/06/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	N/A	03/31/06	EPA 376.2
Dissolved Oxygen	7.59	0.01	0.0100	1		mg/L	N/A	03/30/06	SM 4500-O G

Method Blank	N/A	N/A	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent (1)	0.13	0.20	0.0050	1	J	ug/L	N/A	03/30/06	EPA 218.6
Chloride (1)	ND	1.0	0.055	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N) (1)	ND	0.10	0.028	1		mg/L	N/A	03/30/06	EPA 300.0
Sulfate (1)	ND	1.0	0.069	1		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/05/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	N/A	03/31/06	EPA 376.2

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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Tetra Tech, Inc.		Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1726-2	Aqueous	ICP 3300	03/30/06	03/31/06	060330S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	108	112	72-132	4	0-10	
Arsenic	107	111	80-140	4	0-11	
Barium	108	110	87-123	1	0-6	
Beryllium	105	107	89-119	2	0-8	
Cadmium	105	107	82-124	2	0-7	
Chromium	105	108	86-122	2	0-8	
Cobalt	107	105	83-125	2	0-7	
Copper	91	93	78-126	2	0-7	
Lead	105	108	84-120	3	0-7	
Molybdenum	110	113	78-126	3	0-7	
Nickel	100	102	84-120	2	0-7	
Selenium	109	112	79-127	3	0-9	
Silver	104	106	86-128	2	0-7	
Thallium	96	99	79-121	3	0-8	
Vanadium	107	109	88-118	2	0-7	
Zinc	108	106	89-131	2	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1726-2	Aqueous	ICP 3300	03/30/06	03/31/06	060330S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Calcium	4X	4X	77-113	4X	0-11	Q
Magnesium	4X	4X	56-140	4X	0-11	Q
Potassium	103	109	83-131	3	0-7	
Sodium	4X	4X	73-127	4X	0-9	Q

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

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Tetra Tech, Inc.		Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1726-2	Aqueous	ICP/MS A	03/31/06	03/31/06	060331S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	124	129	80-120	4	0-20	3
Manganese	92	88	80-120	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770
Preparation: EPA 7470A Total
Method: EPA 7470A

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1847-1	Aqueous	Mercury	03/31/06	03/31/06	060331S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	109	109	71-134	1	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	03/30/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1516-1	Aqueous	GC/MS T	03/30/06	03/30/06	060330S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	105	88-118	2	0-7	
Carbon Tetrachloride	95	100	67-145	5	0-11	
Chlorobenzene	102	104	88-118	2	0-7	
1,2-Dichlorobenzene	104	106	86-116	2	0-8	
1,1-Dichloroethene	105	107	70-130	1	0-25	
Toluene	106	107	87-123	1	0-8	
Trichloroethene	102	104	79-127	2	0-10	
Vinyl Chloride	104	106	69-129	2	0-13	
Methyl-t-Butyl Ether (MTBE)	107	113	71-131	5	0-13	
Tert-Butyl Alcohol (TBA)	83	105	36-168	24	0-45	
Diisopropyl Ether (DIPE)	110	113	81-123	2	0-9	
Ethyl-t-Butyl Ether (ETBE)	104	108	72-126	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	103	109	72-126	5	0-12	
Ethanol	120	134	53-149	11	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/30/06
Work Order No: 06-03-1770
Preparation: EPA 5030B
Method: SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-6	Aqueous	GC/MS M	04/03/06	04/03/06	060403S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	104	103	80-120	0	0-20	
1,4-Dioxane	87	87	80-120	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1770

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	MS% REC	MSD % REC	%REC CL	RPD	RPD CL	Qualifiers
Chloride	EPA 300.0	06-03-1726-2	03/30/06	N/A	97	98	56-134	1	0-3	
Nitrite (as N)	EPA 300.0	06-03-1726-2	03/30/06	N/A	98	100	68-122	2	0-8	
Nitrate (as N)	EPA 300.0	06-03-1726-2	03/30/06	N/A	98	97	58-142	0	0-6	
Sulfate	EPA 300.0	06-03-1726-2	03/30/06	N/A	99	100	49-133	0	0-3	
Chromium, Hexavalent	EPA 218.6	MW-3	03/30/06	N/A	103	99	85-121	4	0-4	
Perchlorate	EPA 314.0	06-04-0046-1	04/06/06	N/A	96	97	80-120	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1770

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Dissolved Oxygen	SM 4500-O G	MW-3	03/30/06	7.59	7.61	0	0-25	
Sulfide, Total	EPA 376.2	06-03-1782-22	03/31/06	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,966	Aqueous	ICP 3300	03/31/06	060330-1-04	060330L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	0.500	0.401	80	80-120	
Arsenic	0.500	0.430	86	80-120	
Barium	0.500	0.465	93	80-120	
Beryllium	0.500	0.456	91	80-120	
Cadmium	0.500	0.481	96	80-120	
Chromium	0.500	0.471	94	80-120	
Cobalt	0.500	0.486	97	80-120	
Copper	0.500	0.437	87	80-120	
Lead	0.500	0.479	96	80-120	
Molybdenum	0.500	0.484	97	80-120	
Nickel	0.500	0.483	97	80-120	
Selenium	0.500	0.443	89	80-120	
Silver	0.250	0.218	87	80-120	
Thallium	0.500	0.467	93	80-120	
Vanadium	0.500	0.459	92	80-120	
Zinc	0.500	0.498	100	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,966	Aqueous	ICP 3300	03/31/06	060330-I-04	060330L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Calcium	0.500	0.455	91	80-120	
Magnesium	0.500	0.472	94	80-120	
Potassium	5.00	4.47	89	80-120	
Sodium	5.00	4.52	90	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-008-705	Aqueous	ICP/MS A	03/31/06	03/31/06	060331L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	100	102	85-115	2	0-20	
Manganese	100	101	85-115	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-2,415	Aqueous	Mercury	03/31/06	060331-I-02.icp	060331L02F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Mercury	0.0100	0.0108	108	90-122	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-004-558	Aqueous	GC/MS P	04/04/06	04/05/06	060404L10

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	112	100	50-130	11	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-027-228	Aqueous	GC/MS H	04/03/06	04/05/06	060403L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	103	101	50-130	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-17,502	Aqueous	GC/MS T	03/30/06	03/30/06	060330L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	105	105	84-120	1	0-8	
Carbon Tetrachloride	104	101	63-147	3	0-10	
Chlorobenzene	104	105	89-119	0	0-7	
1,2-Dichlorobenzene	106	106	89-119	1	0-9	
1,1-Dichloroethene	108	106	77-125	2	0-16	
Toluene	106	107	83-125	0	0-9	
Trichloroethene	105	103	89-119	2	0-8	
Vinyl Chloride	107	105	63-135	2	0-13	
Methyl-t-Butyl Ether (MTBE)	113	113	82-118	1	0-13	
Tert-Butyl Alcohol (TBA)	93	98	46-154	5	0-32	
Diisopropyl Ether (DIPE)	115	114	81-123	1	0-11	
Ethyl-t-Butyl Ether (ETBE)	110	109	74-122	0	0-12	
Tert-Amyl-Methyl Ether (TAME)	108	109	76-124	1	0-10	
Ethanol	124	122	60-138	2	0-32	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1770
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-216	Aqueous	GC/MS M	04/03/06	04/03/06	060403L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	85	82	80-120	3	0-20	
1,4-Dioxane	88	89	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1770

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Chloride	EPA 300.0	099-05-118-3,275	N/A	03/30/06	99	97	81-111	2	0-5	
Nitrite (as N)	EPA 300.0	099-05-118-3,275	N/A	03/30/06	94	92	73-115	2	0-26	
Nitrate (as N)	EPA 300.0	099-05-118-3,275	N/A	03/30/06	95	95	87-111	0	0-12	
Sulfate	EPA 300.0	099-05-118-3,275	N/A	03/30/06	98	97	89-107	0	0-13	
Chromium, Hexavalent	EPA 218.6	099-05-124-454	N/A	03/30/06	102	100	95-107	2	0-20	
Perchlorate	EPA 314.0	099-05-203-393	N/A	04/05/06	98	98	85-115	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-03-1770

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

(1770)

TETRA TECH, INC.
3475 E. FOOTHILL BLVD.
PASADENA, CALIFORNIA 91107
TELEPHONE (626) 351-4664
FAX (626)351-5291

SHIPPED TO: CALSCIENCE
7440 LINCOLN WAY
GARDEN GROVE CA 92841

CHAIN OF CUSTODY RECORD

DATE 3/30/06 PAGE 1 OF 1

CLIENT: LOCKHEED MARTIN CORP
PROJECT NAME: 2006 BOU
Groundwater Monitoring (PACWELLS)
TASK MANAGER: Neil Shukla
TC #: 17597-3.1A
SAMPLERS (SIGNATURES): James D. Mulvell

EXTRACTION/ANALYTICAL METHODS

SAMPLE NO.	DATE	TIME	VOCs EPA 8260B w/ Freon, MTBE - TICs	1,2,3 - TCP EPA 504.1 1524.2/LUFT - GCMS - TICs/MS	Title 22 Metals EPA 6010B/7000 (FILTERED)	Hexavalent Chromium EPA 218.6	1,4-Dioxane EPA 8270C-SIM NDMA EPA 1625C	Perchlorate EPA 314.0	Dissolved Fe + Mn EPA 200.8 (FILTERED)	CATIONS/ANIONS EPA 300.0	Dissolved Oxygen SM 4500/EPA 360.1	Sulfide EPA 300.0	MATRIX TYPE	PRESERVATIVE	CONTAINER TYPE	NUMBER OF CONTAINERS	TURN-AROUND TIME / OBSERVATIONS /COMMENTS
MW-6	3/30/06	0822	X	X	X	X	X	X	X	X	X	X	W	Y05	G/P	13	NORMAL
MW-3	3/30/06	1030	X	X	X	X	X	X	X	X	X	X	W	Y05	G/P	13	
LTB-033006A	3/30/06	0700	X										W	HCL	G	2	
LFB-033006A	3/30/06	1130	X										W	HCL	G	2	

MATRIX TYPE: S - SOIL, W - WATER, SL - SLUDGE
CONTAINER TYPE: G - GLASS BOTTLE/VOA, SS - STAINLESS STEEL SLEEVE, P - PLASTIC
PRESERVATIVES: HCL, NR (NONE REQUIRED)
TEMPERATURE BLANK EACH COOLER: YES ☐ NO ☐

RELINQUISHED BY	SIGNATURE		DATE	TIME	
JAMES D. MULVELL	James D. Mulvell	TETRA TECH, INC.	3/30/06	1200	TOTAL NUMBER OF CONTAINERS 30
RECEIVED BY: BAC TA	SIGNATURE	COMPANY: CEL	DATE 3/30/06	TIME 1200	METHOD OF SHIPMENT: LAB Pick up
RELINQUISHED BY: BAC TA	SIGNATURE	COMPANY: CEL	DATE 3/30/6	TIME 1350	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS
RECEIVED BY:	SIGNATURE	COMPANY: CE	DATE 3.30.06	TIME 1350	AIRBILL NO:

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 03 - 1770

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Tetra Tech **DATE:** 3/30/6

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- _____ Chilled, cooler with temperature blank provided.
- _____ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- _____ Ambient and placed in cooler with wet ice.
- _____ Ambient temperature.

2.0 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- _____ °C Temperature blank.
- _____ °C IR thermometer.
- _____ Ambient temperature.

Initial: [signature]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: [signature]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.	✓		
Tedlar bag(s) free of condensation			✓

Initial: [signature]

COMMENTS:

Calscience
Environmental
Laboratories, Inc.

April 08, 2006

Neil Shukla
Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Subject: **Calscience Work Order No.:** **06-03-1617**
Client Reference: **BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/27/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Jason Torres
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt. / EPA 7470A Filt.
		Method:	EPA 6010B / EPA 7470A
		Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01			Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-03-1617-1	03/27/06	Aqueous	03/28/06	03/29/06	060328L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/28/2006 3:30:40 PM with batch 060328L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	ND	0.00500	0.000800	1	
Barium	0.141	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00712	0.0150	0.00295	1	J
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00964	0.00500	0.000350	1	B	Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00383	0.00500	0.000314	1	J,B
Copper	ND	0.00500	0.00134	1		Zinc	0.0268	0.0100	0.000848	1	
Lead	ND	0.0100	0.00236	1							

Method Blank	099-04-008-2,411	N/A	Aqueous	03/28/06	03/28/06	060328L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
Mercury	0.000340	0.000500	0.0000672	1	J

Method Blank	097-01-003-5,956	N/A	Aqueous	03/28/06	03/29/06	060328L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Molybdenum	ND	0.00500	0.000800	1	
Arsenic	ND	0.0100	0.00308	1		Nickel	ND	0.00500	0.00137	1	
Barium	ND	0.0100	0.000719	1		Selenium	ND	0.0150	0.00295	1	
Beryllium	ND	0.00100	0.000176	1		Silver	ND	0.00500	0.000400	1	
Cadmium	ND	0.00500	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Chromium	0.000943	0.00500	0.000350	1	J	Vanadium	0.000939	0.00500	0.000314	1	J
Cobalt	ND	0.00500	0.000696	1		Zinc	ND	0.0100	0.000848	1	
Copper	ND	0.00500	0.00134	1		Lead	ND	0.0100	0.00236	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 6010B
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-03-1617-1	03/27/06	Aqueous	03/28/06	03/29/06	060328L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	102	0.100	0.00932	1		Potassium	5.22	0.50	0.0561	1	
Magnesium	31.0	0.1	0.00328	1	B	Sodium	38.2	0.5	0.0192	1	B

Method Blank	097-01-003-5,956	N/A	Aqueous	03/28/06	03/29/06	060328L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	ND	0.100	0.00932	1		Potassium	ND	0.500	0.0561	1	
Magnesium	0.0117	0.100	0.00328	1	J	Sodium	0.0752	0.500	0.0192	1	J

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 200.8
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-03-1617-1	03/27/06	Aqueous	03/29/06	03/29/06	060329L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0716	0.100	0.00214	1	J	Manganese	0.000934	0.00100	0.0000189	1	J

Method Blank	099-10-008-704	N/A	Aqueous	03/29/06	03/29/06	060329L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	ND	0.100	0.00214	1		Manganese	ND	0.00100	0.0000189	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	**06-03-1617-1**	**03/27/06**	**Aqueous**	**03/28/06**	**04/04/06**	**060328L09**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**			**Qual**	
Nitrobenzene-d5	93	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-09-004-556**	**N/A**	**Aqueous**	**03/28/06**	**04/03/06**	**060328L09**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	**REC (%)**	**Control Limits**			**Qual**	
Nitrobenzene-d5	84	56-123				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	**06-03-1617-1**	**03/27/06**	**Aqueous**	**03/28/06**	**04/01/06**	**060328L08**

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	81	2	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	83	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-07-027-227**	**N/A**	**Aqueous**	**03/28/06**	**04/03/06**	**060328L08**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	83	50-130				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01		Page 1 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	06-03-1617-1	03/27/06	Aqueous	03/28/06	03/29/06	060328L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	3.6	10.0	2.6	1	J,B
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	0.61	1.0	0.22	1	J	1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	54	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	0.79	10.00	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	23	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.49	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	112	74-140				1,2-Dichloroethane-d4	100	74-146			
Toluene-d8	96	88-112				1,4-Bromofluorobenzene	78	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01		Page 2 of 2

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-10-006-17,483**	**N/A**	**Aqueous**	**03/28/06**	**03/29/06**	**060328L03**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	2.8	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	0.21	1.0	0.21	1	J
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	128	74-140		1,2-Dichloroethane-d4	116	74-146	
Toluene-d8	98	88-112		1,4-Bromofluorobenzene	79	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

EPA 8260B Tentatively Identified Compound List

Work Order	CEL Sample	Client ID	Q	Compound	CAS NUMBER	RT	On Column Conc. ug/L	Estimated Conc. ug/L
06-03-1617				No TICs Found				

Q Qualifier
RT Retention Time

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01 Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-8	**06-03-1617-1**	**03/27/06**	**Aqueous**	**03/28/06**	**03/28/06**	**060328L01**

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.028	0.005	0.00081	1	B	ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	**099-10-022-213**	**N/A**	**Aqueous**	**03/28/06**	**03/28/06**	**060328L01**

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.0027	0.0050	0.00081	1	J	ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH ELAP

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/27/06
Work Order No: 06-03-1617

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-8	06-03-1617-1	03/27/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.8	0.2	0.0050	1	B	ug/L	N/A	03/28/06	EPA 218.6
Chloride	43	10	0.055	10		mg/L	N/A	03/28/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/28/06	EPA 300.0
Nitrate (as N)	11	1	0.028	10		mg/L	N/A	03/28/06	EPA 300.0
Sulfate	75	10	0.069	10		mg/L	N/A	03/28/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	N/A	03/28/06	EPA 376.2
Dissolved Oxygen	7.24	0.01	0.0100	1		mg/L	N/A	03/27/06	SM 4500-O G

Method Blank			N/A	Aqueous					

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent (1)	0.14	0.20	0.0050	1	J	ug/L	N/A	03/28/06	EPA 218.6
Chloride (1)	ND	1.0	0.055	1		mg/L	N/A	03/28/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/28/06	EPA 300.0
Nitrate (as N) (1)	ND	0.10	0.028	1		mg/L	N/A	03/28/06	EPA 300.0
Sulfate (1)	ND	1.0	0.069	1		mg/L	N/A	03/28/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	N/A	03/28/06	EPA 376.2

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH NELAC

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/27/06
Work Order No: 06-03-1617
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1582-3	Aqueous	ICP 3300	03/28/06	03/29/06	060328S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	103	103	72-132	0	0-10	
Arsenic	108	107	80-140	0	0-11	
Barium	108	106	87-123	1	0-6	
Beryllium	105	104	89-119	1	0-8	
Cadmium	105	104	82-124	1	0-7	
Chromium	106	104	86-122	1	0-8	
Cobalt	107	107	83-125	0	0-7	
Copper	88	88	78-126	0	0-7	
Lead	105	104	84-120	0	0-7	
Molybdenum	106	106	78-126	0	0-7	
Nickel	101	101	84-120	1	0-7	
Selenium	107	106	79-127	1	0-9	
Silver	104	103	86-128	1	0-7	
Thallium	98	98	79-121	1	0-8	
Vanadium	105	104	88-118	1	0-7	
Zinc	91	91	89-131	0	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1582-3	Aqueous	ICP 3300	03/28/06	03/29/06	060328S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Calcium	4X	4X	77-113	4X	0-11	Q
Magnesium	4X	4X	56-140	4X	0-11	Q
Potassium	114	111	83-131	1	0-7	
Sodium	4X	4X	73-127	4X	0-9	Q

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1582-3	Aqueous	ICP/MS A	03/29/06	03/29/06	060329S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	116	94	80-120	21	0-20	4
Manganese	115	118	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1582-3	Aqueous	Mercury	03/28/06	03/28/06	060328S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	100	100	71-134	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1552-4	Aqueous	GC/MS W	03/28/06	03/29/06	060328S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	106	109	88-118	4	0-7	
Carbon Tetrachloride	90	89	67-145	1	0-11	
Chlorobenzene	101	106	88-118	4	0-7	
1,2-Dichlorobenzene	97	100	86-116	3	0-8	
1,1-Dichloroethene	88	93	70-130	5	0-25	
Toluene	105	110	87-123	4	0-8	
Trichloroethene	96	95	79-127	1	0-10	
Vinyl Chloride	88	92	69-129	3	0-13	
Methyl-t-Butyl Ether (MTBE)	87	78	71-131	9	0-13	
Tert-Butyl Alcohol (TBA)	83	84	36-168	2	0-45	
Diisopropyl Ether (DIPE)	117	118	81-123	1	0-9	
Ethyl-t-Butyl Ether (ETBE)	100	98	72-126	2	0-12	
Tert-Amyl-Methyl Ether (TAME)	101	101	72-126	0	0-12	
Ethanol	94	97	53-149	3	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

Tetra Tech, Inc.		Date Received:	03/27/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1582-3	Aqueous	GC/MS M	03/28/06	03/28/06	060328S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	96	104	80-120	8	0-20	
1,4-Dioxane	116	137	80-120	17	0-20	3

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH ELAP

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1617

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	MS% REC	MSD % REC	%REC CL	RPD	RPD CL	Qualifiers
Chloride	EPA 300.0	06-03-1582-3	03/28/06	N/A	100	98	56-134	1	0-3	
Nitrite (as N)	EPA 300.0	06-03-1582-3	03/28/06	N/A	98	95	68-122	3	0-8	
Nitrate (as N)	EPA 300.0	06-03-1582-3	03/28/06	N/A	97	95	58-142	1	0-6	
Sulfate	EPA 300.0	06-03-1582-3	03/28/06	N/A	99	99	49-133	0	0-3	
Chromium, Hexavalent	EPA 218.6	MW-8	03/28/06	N/A	110	110	85-121	0	0-4	
Perchlorate	EPA 314.0	06-03-1582-3	04/04/06	N/A	113	115	80-120	1	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1617

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Dissolved Oxygen	SM 4500-O G	06-03-1582-3	03/27/06	7.45	6.59	12	0-25	
Sulfide, Total	EPA 376.2	MW-8	03/28/06	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,956	Aqueous	ICP 3300	03/29/06	060328-I-04	060328L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	0.500	0.487	97	80-120	
Arsenic	0.500	0.496	99	80-120	
Barium	0.500	0.583	117	80-120	
Beryllium	0.500	0.497	99	80-120	
Cadmium	0.500	0.530	106	80-120	
Chromium	0.500	0.516	103	80-120	
Cobalt	0.500	0.538	108	80-120	
Copper	0.500	0.471	94	80-120	
Lead	0.500	0.520	104	80-120	
Molybdenum	0.500	0.511	102	80-120	
Nickel	0.500	0.534	107	80-120	
Selenium	0.500	0.477	95	80-120	
Silver	0.250	0.243	97	80-120	
Thallium	0.500	0.494	99	80-120	
Vanadium	0.500	0.495	99	80-120	
Zinc	0.500	0.555	111	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,956	Aqueous	ICP 3300	03/29/06	060328-I-04	060328L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Calcium	0.500	0.602	120	80-120	
Magnesium	0.500	0.514	103	80-120	
Potassium	5.00	5.18	104	80-120	
Sodium	5.00	5.13	103	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-008-704	Aqueous	ICP/MS A	03/29/06	03/29/06	060329L02F

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	110	113	85-115	3	0-20	
Manganese	112	112	85-115	0	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc. **Quality Control - Laboratory Control Sample**

ACCREDITED IN ACCORDANCE WITH

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1617
Preparation: EPA 7470A Filt.
Method: EPA 7470A

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-2,411	Aqueous	Mercury	03/28/06	060328-I-02.icp	060328L02F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Mercury	0.0100	0.0102	102	90-122	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-004-556	Aqueous	GC/MS P	03/28/06	04/03/06	060328L09

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	96	97	50-130	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 3520B
		Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-027-227	Aqueous	GC/MS H	03/28/06	04/03/06	060328L08

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	78	95	50-130	19	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc. **Quality Control - Laboratory Control Sample**

Tetra Tech, Inc.	Date Received:	N/A
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1617
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-10-006-17,483	Aqueous	GC/MS W	03/28/06	28MAR027.rr	060328L03

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Benzene	50	58	117	84-120	
Carbon Tetrachloride	50	53	105	63-147	
Chlorobenzene	50	53	106	89-119	
1,2-Dichlorobenzene	50	49	98	89-119	
1,1-Dichloroethene	50	56	113	77-125	
Toluene	50	56	112	83-125	
Trichloroethene	50	53	106	89-119	
Vinyl Chloride	50	50	100	63-135	
Methyl-t-Butyl Ether (MTBE)	50	52	104	82-118	
Tert-Butyl Alcohol (TBA)	250	280	112	46-154	
Diisopropyl Ether (DIPE)	50	61	121	81-123	
Ethyl-t-Butyl Ether (ETBE)	50	53	106	74-122	
Tert-Amyl-Methyl Ether (TAME)	50	53	106	76-124	
Ethanol	500	580	115	60-138	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1617
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-213	Aqueous	GC/MS M	03/28/06	03/28/06	060328L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	98	92	80-120	7	0-20	
1,4-Dioxane	93	92	80-120	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1617

Project: BOU Groundwater Monitoring 2006 (PAC Wells)/ 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Chloride	EPA 300.0	099-05-118-3,270	N/A	03/28/06	100	102	81-111	2	0-5	
Nitrite (as N)	EPA 300.0	099-05-118-3,270	N/A	03/28/06	98	102	73-115	3	0-26	
Nitrate (as N)	EPA 300.0	099-05-118-3,270	N/A	03/28/06	94	94	87-111	1	0-12	
Sulfate	EPA 300.0	099-05-118-3,270	N/A	03/28/06	103	104	89-107	0	0-13	
Chromium, Hexavalent	EPA 218.6	099-05-124-452	N/A	03/28/06	101	100	95-107	1	0-20	
Perchlorate	EPA 314.0	099-05-203-392	N/A	04/04/06	114	113	85-115	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-03-1617

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

TETRA TECH, INC.
3475 E. FOOTHILL BLVD.
PASADENA, CALIFORNIA 91107
TELEPHONE (626) 351-4664
FAX (626)351-5291

SHIPPED TO: CALSCIENCE
7440 LINCOLN WAY
GARDEN GROVE CA 92841

(1617) (~~1582~~)

CHAIN OF CUSTODY RECORD

DATE 3/27/06 PAGE 2 OF 2

CLIENT: LOCKHEED MARTIN CORP
PROJECT NAME: 2006 BOU Groundwater Monitoring (PAC WELLS)
TASK MANAGER: Neil Shukla
TC #: 17597-3.1A
SAMPLERS (SIGNATURES): James D. Mikesell

EXTRACTION/ANALYTICAL METHODS

SAMPLE NO.	DATE	TIME	VOCs EPA 8260B w/ Freon, MTBE - TICs	1,2,3-TCP EPA 504.1 (524.2/LLE-GCMS-TICs/MS)	Title 22 Metals EPA 6010B/7000 (FILTERED)	Hexavalent Chromium EPA 218.6	1,4-Dioxane EPA 8270C-SIM	NDMA EPA 1625C	Perchlorate EPA 314.0	Dissolved Fe + Mn EPA 200.8 (FILTERED)	Cations/Anions EPA 300.0	Dissolved Oxygen SM 4500/EPA 360.1	Sulfide EPA 300.0					MATRIX TYPE	PRESERVATIVE	CONTAINER TYPE	NUMBER OF CONTAINERS		TURN-AROUND TIME / OBSERVATIONS / COMMENTS
MW-8	3/27/06	1545	X	X	X	X	X	X	X	X	X	X	X					W	[illegible]	G/P	13		

TURN-AROUND TIME: NORMAL

OBSERVATIONS/COMMENTS: USE LFB-032706A LTB-032706A TRIP + FIELD BLANK FOR REPORT

MATRIX TYPE: S - SOIL, W - WATER, SL - SLUDGE
CONTAINER TYPE: G - GLASS BOTTLE/VOA, SS - STAINLESS STEEL SLEEVE, P - PLASTIC
PRESERVATIVES: HCL, NR (NONE REQUIRED)
TEMPERATURE BLANK EACH COOLER ☐ YES ☐ NO

RELINQUISHED BY	SIGNATURE	COMPANY	DATE	TIME	
JAMES D. MIKESELL	James D. Mikesell	TETRA TECH, INC.	3/27/06	1615	TOTAL NUMBER OF CONTAINERS 13
RECEIVED BY: BAC TA	SIGNATURE: [signature]	COMPANY: CEL	3/27/06	1615	METHOD OF SHIPMENT: LAB PICKUP
RELINQUISHED BY: BAC TA	SIGNATURE: [signature]	COMPANY: CEL	3/27/06	1725	SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS
RECEIVED BY: [signature]	SIGNATURE: [signature]	COMPANY: CEL	3/27/06	1725	AIRBILL NO:

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 03 - 1617

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Tetra Tech **DATE:** 3/27/6

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- _____ Chilled, cooler with temperature blank provided.
- _____ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- _____ Ambient and placed in cooler with wet ice.
- _____ Ambient temperature.

2.0 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- _____ °C Temperature blank.
- _____ °C IR thermometer.
- _____ Ambient temperature.

Initial: [illegible]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: [illegible]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.	✓		
Tedlar bag(s) free of condensation			✓

Initial: [illegible]

COMMENTS:

Page 1 of 2 logged-in as 06-03-1582

Calscience
Environmental
Laboratories, Inc.

April 08, 2006

Neil Shukla
Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Subject: **Calscience Work Order No.:** **06-03-1726**
Client Reference: **BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01**

Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 3/29/2006 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Systems Manual, applicable standard operating procedures, and other related documentation. The original report of any subcontracted analysis is provided herein, and follows the standard Calscience data package. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

Calscience Environmental
Laboratories, Inc.
Jason Torres
Project Manager

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/30/2006 7:49:06 PM with batch 060329L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	0.00851	0.0100	0.00308	1	J	Molybdenum	0.00352	0.00500	0.000800	1	J,B
Barium	0.150	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00831	0.00500	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00482	0.00500	0.000314	1	J
Copper	0.00516	0.00500	0.00134	1	B	Zinc	0.0174	0.0100	0.000848	1	B
Lead	0.00598	0.0100	0.00236	1	J						

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/30/2006 7:51:19 PM with batch 060329L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	0.00240	0.00500	0.000800	1	J,B
Barium	0.144	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	0.00669	0.0150	0.00295	1	J
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00851	0.00500	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00381	0.00500	0.000314	1	J
Copper	0.00290	0.00500	0.00134	1	J,B	Zinc	0.0130	0.0100	0.000848	1	B
Lead	0.00288	0.0100	0.00236	1	J						

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.
-Mercury was analyzed on 3/30/2006 7:53:33 PM with batch 060329L02F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Mercury	ND	0.000500	0.0000672	1	
Arsenic	ND	0.0100	0.00308	1		Molybdenum	0.00427	0.00500	0.000800	1	J,B
Barium	0.141	0.010	0.000719	1		Nickel	ND	0.00500	0.00137	1	
Beryllium	ND	0.00100	0.000176	1		Selenium	ND	0.0150	0.00295	1	
Cadmium	ND	0.00500	0.000350	1		Silver	ND	0.00500	0.000400	1	
Chromium	0.00770	0.00500	0.000350	1		Thallium	ND	0.0150	0.00233	1	
Cobalt	ND	0.00500	0.000696	1		Vanadium	0.00401	0.00500	0.000314	1	J
Copper	0.00288	0.00500	0.00134	1	J,B	Zinc	0.0121	0.0100	0.000848	1	B
Lead	0.00337	0.0100	0.00236	1	J						

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 3005A Filt. / EPA 7470A Filt.
Method: EPA 6010B / EPA 7470A
Units: mg/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-04-008-2,413	N/A	Aqueous	03/29/06	03/30/06	060329L02F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual
Mercury	ND	0.000500	0.0000672	1	

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	097-01-003-5,966	N/A	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Antimony	ND	0.0150	0.00209	1		Molybdenum	0.00126	0.00500	0.000800	1	J
Arsenic	ND	0.0100	0.00308	1		Nickel	ND	0.00500	0.00137	1	
Barium	ND	0.0100	0.000719	1		Selenium	ND	0.0150	0.00295	1	
Beryllium	ND	0.00100	0.000176	1		Silver	ND	0.00500	0.000400	1	
Cadmium	ND	0.00500	0.000350	1		Thallium	0.00242	0.0150	0.00233	1	J
Chromium	ND	0.00500	0.000350	1		Vanadium	ND	0.00500	0.000314	1	
Cobalt	ND	0.00500	0.000696	1		Zinc	0.00158	0.0100	0.000848	1	J
Copper	0.00239	0.00500	0.00134	1	J	Lead	ND	0.0100	0.00236	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 6010B
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	102	0.100	0.00932	1		Potassium	5.58	0.50	0.0561	1	
Magnesium	34.0	0.1	0.00328	1	B	Sodium	39.6	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	108	0.100	0.00932	1		Potassium	5.95	0.50	0.0561	1	
Magnesium	31.3	0.1	0.00328	1	B	Sodium	38.6	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	03/30/06	03/31/06	060330L04F

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	107	0.100	0.00932	1		Potassium	5.82	0.50	0.0561	1	
Magnesium	30.6	0.1	0.00328	1	B	Sodium	37.8	0.5	0.0192	1	B

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	097-01-003-5,966	N/A	Aqueous	03/30/06	03/31/06	060330L04F

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Calcium	ND	0.100	0.00932	1		Potassium	ND	0.500	0.0561	1	
Magnesium	0.00427	0.100	0.00328	1	J	Sodium	0.0207	0.500	0.0192	1	J

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 3005A Filt.
	Method:	EPA 200.8
	Units:	mg/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0409	0.100	0.00214	1	J,B	Manganese	0.000447	0.00100	0.0000189	1	J

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0434	0.100	0.00214	1	J,B	Manganese	0.000232	0.00100	0.0000189	1	J

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.0483	0.100	0.00214	1	J,B	Manganese	0.000801	0.00100	0.0000189	1	J

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-008-705	N/A	Aqueous	03/31/06	03/31/06	060331L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Iron	0.00469	0.100	0.00214	1	J	Manganese	ND	0.00100	0.0000189	1	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 3520B
	Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	04/03/06	04/06/06	060403L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	89	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	04/03/06	04/06/06	060403L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	104	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	04/03/06	04/06/06	060403L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	90	56-123				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-09-004-560	N/A	Aqueous	04/03/06	04/05/06	060403L10

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,4-Dioxane	ND	2.0	0.40	1		ug/L
Surrogates:	REC (%)	Control Limits			Qual	
Nitrobenzene-d5	85	56-123				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received:	03/29/06
Work Order No:	06-03-1726
Preparation:	EPA 3520B
Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	04/03/06	04/05/06	060403L03

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	7.1	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	70	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	04/03/06	04/05/06	060403L03

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	64	2	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	67	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	04/03/06	04/05/06	060403L03

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	53	2	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	60	50-130				

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-027-228	N/A	Aqueous	04/03/06	04/05/06	060403L03

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
N-Nitrosodimethylamine	ND	2.0	0.48	1		ng/L
Surrogates:	REC (%)	Control Limits			Qual	
1,4-Dichlorobenzene-d4	78	50-130				

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	03/30/06	03/31/06	060330L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.8	10.0	6.1	1	J	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	0.80	1.0	0.22	1	J	1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	49	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	0.86	10.00	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	18	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	0.69	1.0	0.31	1	J	Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	128	74-140		1,2-Dichloroethane-d4	128	74-146	
Toluene-d8	102	88-112		1,4-Bromofluorobenzene	75	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 2 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	03/30/06	03/31/06	060330L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	13	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	0.30	1.0	0.27	1	J	t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	0.93	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.4	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	75	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.6	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	32	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	0.26	0.50	0.22	1	J	Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	1.9	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	119	74-140		1,2-Dichloroethane-d4	119	74-146	
Toluene-d8	102	88-112		1,4-Bromofluorobenzene	78	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	03/31/06	03/31/06	060331L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	0.33	1.0	0.27	1	J	t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	1.1	0.5	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	1.6	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	75	1	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	1.8	10.0	0.54	1	J
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	32	1	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	0.32	0.50	0.22	1	J	Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	1.3	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	128	74-140		1,2-Dichloroethane-d4	127	74-146	
Toluene-d8	100	88-112		1,4-Bromofluorobenzene	76	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 4 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LTB-032906A	06-03-1726-4	03/29/06	Aqueous	03/30/06	03/31/06	060330L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	9.0	10.0	6.1	1	J	1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	133	74-140		1,2-Dichloroethane-d4	135	74-146	
Toluene-d8	96	88-112		1,4-Bromofluorobenzene	76	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 — Page 5 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
LFB-032906A	06-03-1726-5	03/29/06	Aqueous	03/30/06	03/31/06	060330L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	19	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	0.33	0.50	0.26	1	J	2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	7.6	10.0	4.2	1	J	Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	ND	10	2.6	1	
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	1.2	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	117	74-140		1,2-Dichloroethane-d4	116	74-146	
Toluene-d8	102	88-112		1,4-Bromofluorobenzene	79	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B
	Units:	ug/L
Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01		Page 6 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-17,505	N/A	Aqueous	03/30/06	03/31/06	060330L02

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	2.8	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	112	74-140		1,2-Dichloroethane-d4	112	74-146	
Toluene-d8	99	88-112		1,4-Bromofluorobenzene	82	74-110	

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

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Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 5030B
Method: EPA 8260B
Units: ug/L

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 Page 7 of 7

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-006-17,512	N/A	Aqueous	03/31/06	03/31/06	060331L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Parameter	Result	RL	MDL	DF	Qual
Acetone	ND	10	6.1	1		1,3-Dichloropropane	ND	1.0	0.30	1	
Benzene	ND	0.50	0.26	1		2,2-Dichloropropane	ND	1.0	0.40	1	
Bromobenzene	ND	1.0	0.47	1		1,1-Dichloropropene	ND	1.0	0.21	1	
Bromochloromethane	ND	1.0	0.68	1		c-1,3-Dichloropropene	ND	0.50	0.45	1	
Bromodichloromethane	ND	1.0	0.27	1		t-1,3-Dichloropropene	ND	0.50	0.31	1	
Bromoform	ND	1.0	0.62	1		Ethylbenzene	ND	1.0	0.17	1	
Bromomethane	ND	10	2.9	1		2-Hexanone	ND	10	1.9	1	
2-Butanone	ND	10	4.2	1		Isopropylbenzene	ND	1.0	0.24	1	
n-Butylbenzene	ND	1.0	0.29	1		p-Isopropyltoluene	ND	1.0	0.21	1	
sec-Butylbenzene	ND	1.0	0.21	1		Methylene Chloride	4.2	10.0	2.6	1	J
tert-Butylbenzene	ND	1.0	0.17	1		4-Methyl-2-Pentanone	ND	10	2.4	1	
Carbon Disulfide	ND	10	1.0	1		Naphthalene	ND	10	0.95	1	
Carbon Tetrachloride	ND	0.50	0.42	1		n-Propylbenzene	ND	1.0	0.30	1	
Chlorobenzene	ND	1.0	0.36	1		Styrene	ND	1.0	0.29	1	
Chloroethane	ND	1.0	0.52	1		1,1,1,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloroform	ND	1.0	0.22	1		1,1,2,2-Tetrachloroethane	ND	1.0	0.37	1	
Chloromethane	ND	10	1.8	1		Tetrachloroethene	ND	1.0	0.29	1	
2-Chlorotoluene	ND	1.0	0.24	1		Toluene	ND	1.0	0.35	1	
4-Chlorotoluene	ND	1.0	0.30	1		1,2,3-Trichlorobenzene	ND	1.0	0.39	1	
Dibromochloromethane	ND	1.0	0.45	1		1,2,4-Trichlorobenzene	ND	1.0	0.35	1	
1,2-Dibromo-3-Chloropropane	ND	5.0	2.5	1		1,1,1-Trichloroethane	ND	1.0	0.32	1	
1,2-Dibromoethane	ND	1.0	0.81	1		1,1,2-Trichloro-1,2,2-Trifluoroethane	ND	10	0.54	1	
Dibromomethane	ND	1.0	0.42	1		1,1,2-Trichloroethane	ND	1.0	0.54	1	
1,2-Dichlorobenzene	ND	1.0	0.24	1		Trichloroethene	ND	1.0	0.30	1	
1,3-Dichlorobenzene	ND	1.0	0.38	1		Trichlorofluoromethane	ND	10	0.36	1	
1,4-Dichlorobenzene	ND	1.0	0.30	1		1,2,3-Trichloropropane	ND	5.0	2.3	1	
Dichlorodifluoromethane	ND	1.0	0.27	1		1,2,4-Trimethylbenzene	ND	1.0	0.26	1	
1,1-Dichloroethane	ND	1.0	0.53	1		1,3,5-Trimethylbenzene	ND	1.0	0.19	1	
1,2-Dichloroethane	ND	0.50	0.22	1		Vinyl Acetate	ND	10	3.2	1	
1,1-Dichloroethene	ND	1.0	0.31	1		Vinyl Chloride	ND	0.50	0.33	1	
c-1,2-Dichloroethene	ND	1.0	0.35	1		p/m-Xylene	ND	1.0	0.38	1	
t-1,2-Dichloroethene	ND	1.0	0.29	1		o-Xylene	ND	1.0	0.21	1	
1,2-Dichloropropane	ND	1.0	0.28	1		Methyl-t-Butyl Ether (MTBE)	ND	1.0	0.29	1	
Surrogates:	REC (%)	Control Limits			Qual	Surrogates:	REC (%)	Control Limits			Qual
Dibromofluoromethane	122	74-140				1,2-Dichloroethane-d4	122	74-146			
Toluene-d8	104	88-112				1,4-Bromofluorobenzene	78	74-110			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

EPA 8260B Tentatively Identified Compound List

Work Order	CEL Sample	Client ID	Q	Compound	CAS NUMBER	RT	On Column Conc. ug/L	Estimated Conc. ug/L
06-03-1726				No TICs Found				

Q Qualifier
RT Retention Time

7440 Lincoln Way, Garden Grove, CA 92841-1432 • TEL: (714) 895-5494 • FAX: (714) 894-7501

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 5030B
Method: SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01 Page 1 of 1

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-7	06-03-1726-1	03/29/06	Aqueous	03/30/06	03/30/06	060330L01

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.018	0.005	0.00081	1		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5	06-03-1726-2	03/29/06	Aqueous	03/30/06	03/30/06	060330L01

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.13	0.01	0.00081	2		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5A	06-03-1726-3	03/29/06	Aqueous	03/30/06	03/30/06	060330L01

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	0.14	0.01	0.0016	2		ug/L

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-10-022-215	N/A	Aqueous	03/30/06	03/30/06	060330L01

Comment(s): -Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units
1,2,3-Trichloropropane	ND	0.0050	0.00081	1		ug/L

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix
MW-7	06-03-1726-1	03/29/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.7	0.2	0.0050	1	B	ug/L	N/A	03/29/06	EPA 218.6
Chloride	44	10	0.055	10		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	03/30/06	EPA 300.0
Sulfate	78	10	0.069	10		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	03/30/06	03/30/06	EPA 376.2
Dissolved Oxygen	7.44	0.01	0.0100	1		mg/L	N/A	03/29/06	SM 4500-O G

MW-5	06-03-1726-2	03/29/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.8	0.2	0.0050	1	B	ug/L	N/A	03/29/06	EPA 218.6
Chloride	42	10	0.055	10		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	03/30/06	EPA 300.0
Sulfate	78	10	0.069	10		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	0.77	2.0	0.59	1	J	ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	03/30/06	03/30/06	EPA 376.2
Dissolved Oxygen	7.26	0.01	0.0100	1		mg/L	N/A	03/29/06	SM 4500-O G

MW-5A	06-03-1726-3	03/29/06	Aqueous

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent	1.9	0.2	0.0050	1	B	ug/L	N/A	03/29/06	EPA 218.6
Chloride	41	10	0.055	10		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N)	12	1	0.028	10		mg/L	N/A	03/30/06	EPA 300.0
Sulfate	78	10	0.069	10		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	0.75	2.0	0.59	1	J	ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	03/30/06	03/30/06	EPA 376.2
Dissolved Oxygen	7.24	0.01	0.0100	1		mg/L	N/A	03/29/06	SM 4500-O G

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Analytical Report

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Client Sample Number	Lab Sample Number	Date Collected	Matrix
Method Blank		**N/A**	**Aqueous**

Comment(s): (1) Results were evaluated to the MDL, concentrations >= to the MDL but < RL, if found, are qualified with a "J" flag.

Parameter	Result	RL	MDL	DF	Qual	Units	Date Prepared	Date Analyzed	Method
Chromium, Hexavalent (1)	0.13	0.20	0.0050	1	J	ug/L	N/A	03/29/06	EPA 218.6
Chloride (1)	ND	1.0	0.055	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrite (as N) (1)	ND	0.10	0.015	1		mg/L	N/A	03/30/06	EPA 300.0
Nitrate (as N) (1)	ND	0.10	0.028	1		mg/L	N/A	03/30/06	EPA 300.0
Sulfate (1)	ND	1.0	0.069	1		mg/L	N/A	03/30/06	EPA 300.0
Perchlorate (1)	ND	2.0	0.59	1		ug/L	N/A	04/04/06	EPA 314.0
Sulfide, Total (1)	ND	0.050	0.042	1		mg/L	03/30/06	03/30/06	EPA 376.2

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	ICP 3300	03/30/06	03/31/06	060330S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Antimony	108	112	72-132	4	0-10	
Arsenic	107	111	80-140	4	0-11	
Barium	108	110	87-123	1	0-6	
Beryllium	105	107	89-119	2	0-8	
Cadmium	105	107	82-124	2	0-7	
Chromium	105	108	86-122	2	0-8	
Cobalt	107	105	83-125	2	0-7	
Copper	91	93	78-126	2	0-7	
Lead	105	108	84-120	3	0-7	
Molybdenum	110	113	78-126	3	0-7	
Nickel	100	102	84-120	2	0-7	
Selenium	109	112	79-127	3	0-9	
Silver	104	106	86-128	2	0-7	
Thallium	96	99	79-121	3	0-8	
Vanadium	107	109	88-118	2	0-7	
Zinc	108	106	89-131	2	0-8	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 3005A Filt.
Method: EPA 6010B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	ICP 3300	03/30/06	03/31/06	060330S04

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Calcium	4X	4X	77-113	4X	0-11	Q
Magnesium	4X	4X	56-140	4X	0-11	Q
Potassium	103	109	83-131	3	0-7	
Sodium	4X	4X	73-127	4X	0-9	Q

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 3005A Filt.
Method: EPA 200.8

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	ICP/MS A	03/31/06	03/31/06	060331S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	124	129	80-120	4	0-20	3
Manganese	92	88	80-120	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 7470A Filt.
Method: EPA 7470A

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	Mercury	03/29/06	03/30/06	060329S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Mercury	90	91	71-134	0	0-14	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 3520B
Method: EPA 8270C(M) Isotope Dilution

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	GC/MS P	04/03/06	04/06/06	060403S10

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	112	113	50-130	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	GC/MS O	03/30/06	03/31/06	060330S02

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	106	105	88-118	1	0-7	
Carbon Tetrachloride	99	97	67-145	1	0-11	
Chlorobenzene	100	99	88-118	2	0-7	
1,2-Dichlorobenzene	101	103	86-116	2	0-8	
1,1-Dichloroethene	98	98	70-130	0	0-25	
Toluene	114	112	87-123	2	0-8	
Trichloroethene	99	99	79-127	0	0-10	
Vinyl Chloride	100	102	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	103	110	71-131	6	0-13	
Tert-Butyl Alcohol (TBA)	57	73	36-168	24	0-45	
Diisopropyl Ether (DIPE)	116	113	81-123	3	0-9	
Ethyl-t-Butyl Ether (ETBE)	99	105	72-126	6	0-12	
Tert-Amyl-Methyl Ether (TAME)	98	103	72-126	5	0-12	
Ethanol	97	110	53-149	13	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	03/29/06
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 5030B
	Method:	EPA 8260B

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
06-03-1805-1	Aqueous	GC/MS O	03/31/06	03/31/06	060331S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	114	111	88-118	3	0-7	
Carbon Tetrachloride	103	98	67-145	5	0-11	
Chlorobenzene	106	103	88-118	3	0-7	
1,2-Dichlorobenzene	109	107	86-116	2	0-8	
1,1-Dichloroethene	101	99	70-130	2	0-25	
Toluene	120	115	87-123	4	0-8	
Trichloroethene	106	102	79-127	3	0-10	
Vinyl Chloride	104	103	69-129	1	0-13	
Methyl-t-Butyl Ether (MTBE)	99	102	71-131	3	0-13	
Tert-Butyl Alcohol (TBA)	62	59	36-168	6	0-45	
Diisopropyl Ether (DIPE)	118	117	81-123	0	0-9	
Ethyl-t-Butyl Ether (ETBE)	113	117	72-126	3	0-12	
Tert-Amyl-Methyl Ether (TAME)	117	118	72-126	1	0-12	
Ethanol	109	112	53-149	4	0-31	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: 03/29/06
Work Order No: 06-03-1726
Preparation: EPA 5030B
Method: SRL 524M-TCP

Project BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5	Aqueous	GC/MS M	03/30/06	03/30/06	060330S01

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	150	136	80-120	2	0-20	3
1,4-Dioxane	95	100	80-120	5	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Spike/Spike Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1726

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Analyzed	Date Extracted	MS% REC	MSD % REC	%REC CL	RPD	RPD CL	Qualifiers
Chloride	EPA 300.0	MW-5	03/30/06	N/A	97	98	56-134	1	0-3	
Nitrite (as N)	EPA 300.0	MW-5	03/30/06	N/A	98	100	68-122	2	0-8	
Nitrate (as N)	EPA 300.0	MW-5	03/30/06	N/A	98	97	58-142	0	0-6	
Sulfate	EPA 300.0	MW-5	03/30/06	N/A	99	100	49-133	0	0-3	
Chromium, Hexavalent	EPA 218.6	MW-5	03/29/06	N/A	110	105	85-121	3	0-4	
Perchlorate	EPA 314.0	MW-5	04/04/06	N/A	117	118	80-120	1	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1726

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	QC Sample ID	Date Analyzed	Sample Conc	DUP Conc	RPD	RPD CL	Qualifiers
Dissolved Oxygen	SM 4500-O G	MW-5	03/29/06	7.26	7.87	8	0-25	
Sulfide, Total	EPA 376.2	MW-5	03/30/06	ND	ND	NA	0-25	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,966	Aqueous	ICP 3300	03/31/06	060330-I-04	060330L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Antimony	0.500	0.401	80	80-120	
Arsenic	0.500	0.430	86	80-120	
Barium	0.500	0.465	93	80-120	
Beryllium	0.500	0.456	91	80-120	
Cadmium	0.500	0.481	96	80-120	
Chromium	0.500	0.471	94	80-120	
Cobalt	0.500	0.486	97	80-120	
Copper	0.500	0.437	87	80-120	
Lead	0.500	0.479	96	80-120	
Molybdenum	0.500	0.484	97	80-120	
Nickel	0.500	0.483	97	80-120	
Selenium	0.500	0.443	89	80-120	
Silver	0.250	0.218	87	80-120	
Thallium	0.500	0.467	93	80-120	
Vanadium	0.500	0.459	92	80-120	
Zinc	0.500	0.498	100	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 6010B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
097-01-003-5,966	Aqueous	ICP 3300	03/31/06	060330-I-04	060330L04F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Calcium	0.500	0.455	91	80-120	
Magnesium	0.500	0.472	94	80-120	
Potassium	5.00	4.47	89	80-120	
Sodium	5.00	4.52	90	80-120	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 3005A Filt.
		Method:	EPA 200.8

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-008-705	Aqueous	ICP/MS A	03/31/06	03/31/06	060331L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Iron	100	102	85-115	2	0-20	
Manganese	100	101	85-115	1	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - Laboratory Control Sample

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 7470A Filt.
		Method:	EPA 7470A

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-04-008-2,413	Aqueous	Mercury	03/30/06	060329-I-02.icp	060329L02F

Parameter	Conc Added	Conc Recovered	LCS %Rec	%Rec CL	Qualifiers
Mercury	0.0100	0.00932	93	90-122	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.	Date Received:	N/A
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 3520B
	Method:	EPA 8270C(M) Isotope Dilution

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-09-004-560	Aqueous	GC/MS P	04/03/06	04/05/06	060403L10

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,4-Dioxane	116	104	50-130	11	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

Tetra Tech, Inc.	Date Received:	N/A
3475 East Foothill Blvd., Suite 300	Work Order No:	06-03-1726
Pasadena, CA 91107-6024	Preparation:	EPA 3520B
	Method:	EPA 1625CM

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-07-027-228	Aqueous	GC/MS H	04/03/06	04/05/06	060403L03

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
N-Nitrosodimethylamine	103	101	50-130	2	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-17,505	Aqueous	GC/MS O	03/30/06	03/30/06	060330L02

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	104	105	84-120	1	0-8	
Carbon Tetrachloride	95	96	63-147	2	0-10	
Chlorobenzene	98	98	89-119	0	0-7	
1,2-Dichlorobenzene	102	103	89-119	1	0-9	
1,1-Dichloroethene	96	98	77-125	2	0-16	
Toluene	110	111	83-125	1	0-9	
Trichloroethene	96	99	89-119	3	0-8	
Vinyl Chloride	97	99	63-135	2	0-13	
Methyl-t-Butyl Ether (MTBE)	87	92	82-118	6	0-13	
Tert-Butyl Alcohol (TBA)	59	64	46-154	9	0-32	
Diisopropyl Ether (DIPE)	108	111	81-123	3	0-11	
Ethyl-t-Butyl Ether (ETBE)	103	109	74-122	6	0-12	
Tert-Amyl-Methyl Ether (TAME)	99	106	76-124	7	0-10	
Ethanol	91	97	60-138	6	0-32	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	EPA 8260B

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-006-17,512	Aqueous	GC/MS O	03/31/06	03/31/06	060331L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	107	109	84-120	1	0-8	
Carbon Tetrachloride	98	99	63-147	0	0-10	
Chlorobenzene	101	103	89-119	2	0-7	
1,2-Dichlorobenzene	104	106	89-119	2	0-9	
1,1-Dichloroethene	98	100	77-125	1	0-16	
Toluene	114	116	83-125	1	0-9	
Trichloroethene	99	101	89-119	2	0-8	
Vinyl Chloride	100	104	63-135	3	0-13	
Methyl-t-Butyl Ether (MTBE)	94	103	82-118	10	0-13	
Tert-Butyl Alcohol (TBA)	65	71	46-154	8	0-32	
Diisopropyl Ether (DIPE)	110	111	81-123	1	0-11	
Ethyl-t-Butyl Ether (ETBE)	102	106	74-122	4	0-12	
Tert-Amyl-Methyl Ether (TAME)	103	106	76-124	3	0-10	
Ethanol	102	95	60-138	8	0-32	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.		Date Received:	N/A
3475 East Foothill Blvd., Suite 300		Work Order No:	06-03-1726
Pasadena, CA 91107-6024		Preparation:	EPA 5030B
		Method:	SRL 524M-TCP

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-10-022-215	Aqueous	GC/MS M	03/30/06	03/30/06	060330L01

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
1,2,3-Trichloropropane	84	84	80-120	1	0-20	
1,4-Dioxane	103	93	80-120	10	0-20	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Quality Control - LCS/LCS Duplicate

ACCREDITED IN ACCORDANCE WITH nelac

Tetra Tech, Inc.
3475 East Foothill Blvd., Suite 300
Pasadena, CA 91107-6024

Date Received: N/A
Work Order No: 06-03-1726

Project: BOU Groundwater Monitoring 2006 (PAC Wells) / 17653-06-01

Matrix: Aqueous

Parameter	Method	Quality Control Sample ID	Date Extracted	Date Analyzed	LCS % REC	LCSD % REC	%REC CL	RPD	RPD CL	Qual
Chloride	EPA 300.0	099-05-118-3,275	N/A	03/30/06	99	97	81-111	2	0-5	
Nitrite (as N)	EPA 300.0	099-05-118-3,275	N/A	03/30/06	94	92	73-115	2	0-26	
Nitrate (as N)	EPA 300.0	099-05-118-3,275	N/A	03/30/06	95	95	87-111	0	0-12	
Sulfate	EPA 300.0	099-05-118-3,275	N/A	03/30/06	98	97	89-107	0	0-13	
Chromium, Hexavalent	EPA 218.6	099-05-124-453	N/A	03/29/06	97	102	95-107	5	0-20	
Perchlorate	EPA 314.0	099-05-203-392	N/A	04/04/06	114	113	85-115	0	0-15	

RPD - Relative Percent Difference , CL - Control Limit

Calscience Environmental Laboratories, Inc.

Glossary of Terms and Qualifiers

Work Order Number: 06-03-1726

Qualifier	Definition
*	See applicable analysis comment.
1	Surrogate compound recovery was out of control due to a required sample dilution, therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike or Matrix Spike Duplicate compound was out of control due to matrix interference. The associated LCS and/or LCSD was in control and, therefore, the sample data was reported without further clarification.
4	The MS/MSD RPD was out of control due to matrix interference. The LCS/LCSD RPD was in control and, therefore, the sample data was reported without further clarification.
5	The PDS/PDSD associated with this batch of samples was out of control due to a matrix interference effect. The associated batch LCS/LCSD was in control and, hence, the associated sample data was reported with no further corrective action required.
A	Result is the average of all dilutions, as defined by the method.
B	Analyte was present in the associated method blank.
C	Analyte presence was not confirmed on primary column.
E	Concentration exceeds the calibration range.
H	Sample received and/or analyzed past the recommended holding time.
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
N	Nontarget Analyte.
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
U	Undetected at the laboratory method detection limit.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

(726)

TETRA TECH, INC.
3475 E. FOOTHILL BLVD.
PASADENA, CALIFORNIA 91107
TELEPHONE (626) 351-4664
FAX (626)351-5291

SHIPPED TO: CALSCIENCE
7440 LINCOLN WAY
GARDEN GROVE CA 92841

CHAIN OF CUSTODY RECORD

DATE 3/29/06 PAGE 1 OF 1

CLIENT: LOCKHEED MARTIN CORP

PROJECT NAME: 2006 BOU Groundwater Monitoring (PACWELLS)

TASK MANAGER: Neil Shukla

TC #: 17597-3.1A

SAMPLERS (SIGNATURES): James D. Mikesell

TURN-AROUND TIME: NORMAL

EXTRACTION/ANALYTICAL METHODS

	SAMPLE NO.	DATE	TIME	VOCs EPA 8260B w/ Freon, MTBE - TICs	1,2,3-TCP EPA 504.1 (524.2/LLE-GCMS+TICs-ppt)	Title 22 Metals EPA 6010B/7000 (FILTERED)	Hexavalent Chromium EPA 218.6	1,4-Dioxane EPA 8270C-SIM	NDMA EPA 1625C	Perchlorate EPA 314.0	Dissolved Fe+Mn EPA 200.8 (FILTERED)	CATIONS/ANIONS EPA 300.0	Dissolved Oxygen SM 4500/EPA 360.1	Sulfide EPA 300.0					MATRIX TYPE	PRESERVATIVE	CONTAINER TYPE	NUMBER OF CONTAINERS		OBSERVATIONS /COMMENTS
1	MW-7	3/29/06	0818	X	X	X	X	X	X	X	X	X	X	X					W	yes	G/P	13		
2	MW-5	3/29/06	1005	X	X	X	X	X	X	X	X	X	X	X					W	yes	G/P	26		MS/MSD
3	MW-5A	3/29/06	1100	X	X	X	X	X	X	X	X	X	X	X					W	yes	G/P	13		
4	LTB-032906A	3/29/06	0600	X	X														W	HCl	G	2		
5	LFB-032906A	3/29/06	1200	X	X														W	HCl	G	2		

MATRIX TYPE: S - SOIL, W - WATER, SL - SLUDGE
CONTAINER TYPE: G - GLASS BOTTLE/VOA, SS - STAINLESS STEEL SLEEVE, P - PLASTIC
PRESERVATIVES: HCL, NR (NONE REQUIRED)
TEMPERATURE BLANK EACH COOLER ☐ YES ☐ NO

RELINQUISHED BY	SIGNATURE	TETRA TECH, INC.	DATE	TIME	TOTAL NUMBER OF CONTAINERS
JAMES D. MIKESELL	James D. Mikesell		3/29/06	1510	56
RECEIVED BY	**SIGNATURE**	**COMPANY**	**DATE**	**TIME**	**METHOD OF SHIPMENT**
BAC TA	[signature]	CEL	3/29/06	1510	LAB PICK UP
RELINQUISHED BY	**SIGNATURE**	**COMPANY**	**DATE**	**TIME**	**SPECIAL SHIPMENT/HANDLING OR STORAGE REQUIREMENTS**
BAC TA	[signature]	CEL	3/29/06	1720	
RECEIVED BY	**SIGNATURE**	**COMPANY**	**DATE**	**TIME**	**AIRBILL NO:**
Shen Fama	[signature]	CEL	3.29.06	1738	

Calscience Environmental Laboratories, Inc.

WORK ORDER #: 06 - 03 - 1726

Cooler 1 of 1

SAMPLE RECEIPT FORM

CLIENT: Tetra Tech **DATE:** 3/29/06

TEMPERATURE – SAMPLES RECEIVED BY:

CALSCIENCE COURIER:

- _____ Chilled, cooler with temperature blank provided.
- ✓ Chilled, cooler without temperature blank.
- ✓ Chilled and placed in cooler with wet ice.
- _____ Ambient and placed in cooler with wet ice.
- _____ Ambient temperature.
- 2.0 °C Temperature blank.

LABORATORY (Other than Calscience Courier):

- _____ °C Temperature blank.
- _____ °C IR thermometer.
- _____ Ambient temperature.

Initial: [illegible]

CUSTODY SEAL INTACT:

Sample(s): _____ Cooler: _____ No (Not Intact) : _____ Not Applicable (N/A): ✓

Initial: [illegible]

SAMPLE CONDITION:

	Yes	No	N/A
Chain-Of-Custody document(s) received with samples	✓		
Sample container label(s) consistent with custody papers	✓		
Sample container(s) intact and good condition	✓		
Correct containers for analyses requested	✓		
Proper preservation noted on sample label(s)	✓		
VOA vial(s) free of headspace.	✓		
Tedlar bag(s) free of condensation			✓

Initial: [illegible]

COMMENTS:

1.1 QUALITY ASSURANCE/QUALITY CONTROL SUMMARY

The Quality Assurance/Quality Control (QA/QC) Summary is the relevant QA/QC information associated with the Burbank Operational Unit sampling data set (PACWELLS). The QA/QC Summary contains the following three subjects, which are addressed in detail:

- Data validation concepts, rationale, and practices;
- Data quality objectives, evaluation, and implications; and

1.1.1 SELECTED DEFINITIONS/CRITERIA OF TERMS

1.1.1.1 Holding Times

The U. S. Environmental Protection Agency (U.S. EPA) has established maximum time intervals (holding times) between the collection, extraction, and analysis of samples. All compliant results must be obtained within holding times or the results are considered deficient. Samples analyzed outside of holding times must be qualified.

1.1.1.2 Laboratory and Field Blanks

Laboratory and field blanks are samples used to determine if environmental sample results may be positively biased by laboratory or field contamination. Laboratory blank results indicate contamination due to laboratory operations only, while field blank results indicate contamination from field and/or laboratory operations. Laboratory blanks contaminated above the Practical Quantitation Limit (PQL) indicate a need for corrective action.

1.1.1.3 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Matrix spike samples are environmental samples that are spiked with known concentrations of target analytes. The recovery of the target analytes is used to evaluate the effects of the sample matrix. Matrix effects are considered site specific. One MS/MSD sample is analyzed for every 20 environmental samples. The matrix spike duplicate results may be compared to the matrix spike results in order to determine precision.

1.1.1.4 Laboratory Control Sample (LCS)

The LCS determines if the analytical system is in control and consists of reagent grade (analyte free) water spiked with known concentrations of target analytes. Results from the LCS are considered free of any matrix effects and analyte recoveries outside control limits are used to qualify data.

1.1.1.5 Surrogates

For most methods, surrogate compounds are added to every sample at the beginning of sample preparation and are used to monitor the analytical process and give information concerning matrix effects. Surrogate recoveries are the single most useful QC entity for evaluating environmental analytical data. The ubiquitous use of surrogates in the analytical methods has afforded a large database of results from which useful correlated information can be extracted. Surrogates are chemically similar to target analytes and their

recovery within control limits indicates the process is in control. Surrogates are the primary indicators of matrix effects.

1.1.1.6 Second Column Confirmation

All organic analysis that results in analyte detection should be confirmed in order to have confidence in the result. In the case of gas chromatography/mass spectrometry (GC/MS) analysis, analyte peaks at the correct retention time are confirmed by the mass spectra. For GC or high performance liquid chromatography (HPLC) analysis, a second analytical column and/or a second detector is used for to confirm the presence of the analyte. Unless an analyte is confirmed, its presence cannot be proved.

1.1.1.7 Temperature Blanks

Temperature blanks are placed in coolers with environmental samples in order to determine the temperature of the samples when they arrive at the lab. Temperature blanks typically consist of water in a container similar to the sample containers. Upon receipt at the lab, the temperature blanks are opened and a thermometer is inserted directly into the liquid. Alternatively, the temperature of the samples is measured using an infrared thermometer. The criterion is 4 degrees Celsius, plus or minus 2 degrees. Samples that arrive at the laboratory shortly after sample collection (less than 4 hours) may not have sufficient time for temperature equilibration. In these cases, samples may exceed the upper temperature limit of 6 degrees Celsius, but must be below ambient temperatures.

1.1.1.8 Field Audits

Field audits determine if the sampling procedures used by the field crew are in accordance with standard operating procedures. The techniques used to collect the samples are analyzed to determine if the samples are being collected correctly.

1.1.1.9 Sample Delivery Group (SDG)

The SDG is a laboratory-defined collection of sample results together with the corresponding quality control results. These results are organized under a unique group heading. The laboratory determines the method of grouping the sample results under an SDG and each SDG may contain samples collected at various times and with different matrix types. Generally, each SDG consists of the results for a group of samples received by the laboratory on a single day.

1.1.1.10 Data Gaps

Data gaps may be generated by both field sampling activities and laboratory data problems. Field activities that may produce data gaps include difficulty accessing the sampling location, which results in no sample being collected, or damage and subsequent loss of samples before they reach the laboratory. Laboratory QC errors resulting in data that must be qualified as rejected will also leave data gaps in the analytical results. If necessary, data gaps may be closed quickly by resampling and reanalysis. If the results are not time critical, the gap may be closed during the next quarter of sampling.

1.1.1.11 Corrective Actions

Corrective actions are performed in response to data or conditions that are not in analytical control. Corrective actions are performed in an attempt to bring the error condition back under control. Corrective actions are documented by a corrective action report (CAR) and are included in the laboratory's SDG data package.

1.1.2 DATA VALIDATION RATIONALE AND GUIDELINES

1.1.2.1 Controlling Documents

The following documents were used for data validation.

- USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review (Publication OSWER 9240.1-05A-P, EPA-540/R-99/008, October 1999); and
- USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (Publication OSWER 9240.1-35, EPA-540/R-01/008, July 2002).

These two documents are hereinafter collectively referred to as the National Functional Guidelines.

1.1.2.2 Data Validation Theory and Matrix Effects

The practice of data validation in the environmental organic chemistry field has been the subject of debate for many years. Determining the validity of environmental data results when matrix effects are suspected is not an exact science, and professional judgment concerning matrix effects is used to help guide the data to its best logical interpretation and evaluation.

The overall QC of environmental sample analysis can be divided into two main categories. These categories are generally considered to be "method QC" and "instrument QC." Both types of QC operate independently to validate the data and qualify the results.

Instrument QC parameters are often well defined and well understood and are based on the tangible physical laws of analytical instrumentation. Instrument QC parameters have to do with (but are not limited to) the calibration, chromatography, and detection aspects of environmental data analysis. Instrument QC parameters are considered independent from a sample's matrix and/or matrix effects.

Conversely, method QC parameters do not yield results that are as well defined, since they are based in part on problems associated with the intangible and/or unknown effects of the sample matrix. Method QC parameters have to do with (but are not limited to) the spiking, extraction, and spike recovery aspects of environmental data analysis. Method QC parameters are considered dependent on a sample's matrix and/or matrix effects.

When evaluating environmental data results with pronounced or unknown matrix effects, a conservative approach to the validation is required. The method QC parameters are rigidly applied and validations are conferred to entire data sets based on one sample's bias.

1.1.2.3 Data Validation Rationale

The *National Functional Guidelines* were written for use with the Contract Laboratory Program (CLP) methods as outlined in the CLP Statement of Work (SOW). The SOW contains methods for volatile and semivolatile GC/MS analysis, two-column GC pesticide analysis, and inductively coupled plasma (ICP) metal analysis. These methods do not differ significantly in the application of the basic quality control parameters from those found in the corresponding SW846 methods for volatile, semivolatile, pesticide, and ICP metals analyses (hereafter referred to as the SW methods). The target compounds in the CLP are a subset of the SW846 target compounds.

Since the CLP methods and the SW846 methods have similar QC instructions, the *National Functional Guidelines* are usable for the SW methods. In order to validate analytical methods that have no corresponding CLP method validation guidance, logical extrapolations are determined by modeling the pertinent CLP rationale. The resulting validated data have a professional judgment component that allows the validation to be tailored to the individual project. Since the validation of environmental results is not an exact science, interpretive judgments are sometimes required for complex data. After several years of sampling the same wells and analyzing the samples by the same methods for the same analytes, the database of historical results is useful for applying professional judgment to data validation. In an effort to give the AFCEE as much usable data as possible, Tetra Tech uses professional judgment when validating the data and uses the *National Functional Guidelines* as the primary guidance documents for validation purposes.

1.1.2.4 Validation Qualifiers

B: The sample result is less than 5 times (10 times for common organic laboratory contaminants) the blank contamination. The result is considered not to have originated from the environmental sample, because cross-contamination is suspected.

J: The analyte was positively identified and the result is usable; however, the analyte concentration is an estimated value.

R: The sample result is rejected and not usable for any purpose. The presence or absence of the analyte cannot be verified.

U: The analyte was not detected at or above the reporting detection limit (RDL).

UJ: The analyte was not detected above the MDL; however, the MDL is uncertain and may be elevated above normal levels.

Y: Confirmation column results indicate a non-detect for the target analyte.

1.1.2.5 Qualifier Descriptors

a: The analyte was found in the method blank.

b: The surrogate spike recovery was outside quality control criteria.

c: The MS and/or MSD recoveries were outside control limits.

d: The laboratory control sample recovery was outside control limits.

e: A holding time violation occurred.

f: The duplicate/replicate sample's relative percent difference (RPD) was outside the control limit.

g: The data met prescribed criteria as detailed in the QAPP.

h: The required second column confirmation was not performed.

k: The analyte was found in a field blank.

l: The second column confirmation result indicates the analyte was not confirmed.

n: The laboratory case narrative indicated a QC problem.

p: Professional judgment determined the data should be qualified.

q: The analyte detection was below the PQL.

r: The result is above the instrument's calibration range.

t: The temperature was outside acceptance criteria.

1.1.2.6 Level One Validation Guidelines

Organic Validation Guidelines

Sample Preservation

- As a rule, all samples are required to be preserved at a temperature of 4 degrees Celsius, plus or minus 2 degrees. Additional preservation criteria are method specific. The temperature criterion applies to all samples.

- Samples placed in a cooler and transported directly to the laboratory with short transit times (less than 4 hours) do not allow for temperature equilibration. The temperature of samples with short transit time must be below ambient temperature with evidence of cooling in progress (ice or ice-substitute present).

- Samples with temperatures in excess of six degrees Celsius but less than or equal to 12 degrees Celsius are qualified J for detected analytes and **UJ** for non-detects.

- Samples in gross excess (>12 degrees) of the temperature criteria are qualified **J** for detected analytes and non-detects are qualified **R**.

- The descriptor **t** is used to indicate sample temperature qualification.

Holding Times

- For volatile organic analyses (VOA) samples, analysis after 14 days (7 days if not pH preserved) from collection are qualified **J** and **UJ**.

- For semivolatile (SV) samples, water samples extracted after 7 days (14 days for soil) are qualified **J** and **UJ**. Samples analyzed after 40 days from extraction are also qualified **J** and **UJ**.

- If holding times are grossly exceeded (greater than 2 times the normal holding time), then positive results are qualified **J** and non-detects are qualified **R**.

- The descriptor **e** is used to denote holding time violations.

Blanks

- Analytes found in associated environmental samples at or below 5 times (10 times common organic analytes) of the method or field blank analyte concentrations are qualified **B**.

- The descriptor **a** is used to indicate method blank contamination.

- The descriptor **k** is used to indicate field blank contamination.

Surrogates

- For VOA (GC/MS) samples, there are three cases. Any single surrogate failure will cause qualification.

  - Case #1: Recovery above upper limit, then **J** qualify detected analytes. Do not qualify non-detected analytes.

  - Case #2: Recovery between lower limit and 10 percent, then **J** and **UJ**.

  - Case #3: Recovery below 10 percent, then **J** positive results and **R** non-detects.

- For SV (GC/MS) samples, there are four cases. Except for case four, two surrogate failures (within each fraction) will cause fraction specific qualification.

  - Case #1: Recovery above upper limit, then **J** only. No **UJ**.

- Case #2: Recovery between lower limit and 10 percent, then **J** and **UJ**.
- Case #3: Recovery of one surrogate above upper limit and one surrogate below the lower limit but above 10 percent, then qualify as in case #2.
- Case #4: Any one surrogate below 10 percent, then **J** positive results and **R** non-detects.

- For SV (GC) samples.
  - Case #1: Recovery above upper limit, then **J** only positive results. Non-detects are not qualified.
  - Case #2: Recovery between lower limit and 10 percent, then **J** positive results. Non-detects are qualified **UJ**.
  - Case #3: Recovery below 10 percent, then **J** positive results and **R** non-detects.
- The descriptor **b** is used to indicate surrogate failure qualification.

Laboratory Control Sample

- For laboratory control sample (LCS) qualifications, the specific analytes spiked into the LCS sample must always be qualified. All target analytes are spiked into the LCS.
- For all methods requiring LCS recoveries there are 2 cases.
  - Case #1: LCS recovery is above upper limit, then **J** detected analytes only. Do not qualify non-detects.
  - Case #2: LCS recovery is below lower limit then **J** positive results and **R** non-detects.
- The descriptor **d** is used to indicate LCS qualification.

Matrix Spike/Matrix Spike Duplicates

- The target analytes spiked into the MS/MSD are listed in the project specific QAPP.
- There are two cases for qualification based on the MS/MSD results.
  - Case #1: Non-compliant spike recoveries comprise the first case for qualification based on MS/MSD results. MS and MSD spike recoveries outside of control limits, where the LCS demonstrates that the analytical system was in control, are attributed to the effects of the sample matrix. If both the MS and MSD fail spike recovery criteria as indicated below, qualify based on the least compliant recovery.
    - Recovery above upper limit, then **J** detected compounds only. Do not

qualify non-detects.

- Recovery between lower limit and 10 percent, then **J** detected compounds and **UJ** non-detects.

- Recovery below 10 percent, then **J** detected compounds and **R** non-detects.

- Case #2: Non-compliance of the RPD value is the second case for qualification of data based on the MS/MSD results. MS/MSD RPDs are calculated from the analyte concentrations of the MS and MSD. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised.

  - RPD outside the control limit, then qualify the related samples with **J** for detected compounds and **UJ** non-detects.

- The descriptor **c** is used to indicate MS/MSD qualification based on the percent recovery of the spiked analytes.

- The descriptor **f** is used to indicate RPD failure.

Second Column Confirmation

For certain GC or HPLC methods, second column/detector confirmation is required for detected analytes. Refer to the relevant QAPP for method and analyte specific requirements.

Second column results are used to confirm the actual presence or absence of a target analyte. U.S. EPA guidelines state "If the qualitative criteria for both columns were not met, all target compounds that are reported detected should be considered non-detected." Therefore, any compound detection on only one column is not considered a target compound hit.

- For the situation where a compound was detected on the primary column and not detected on the confirmation column, consider the value reported to be not detected. Qualify the result with **Y** and use the **l** descriptor.

- In the case of a detection on the primary column where the required second column confirmation was not performed, then qualify the result with **R** and use the **h** descriptor.

Field Duplicate Samples

Field duplicate samples are collected to assess the precision of the sample collection and laboratory analytical process. As a rule, both the sample and its duplicate result must be at or above the PQL in order to calculate a meaningful RPD and if both results are below the PQL the RPD is not calculated. However, if one result is below the PQL (assume zero for a non-detect) and the other result significantly above (10 times) the PQL a RPD is calculated. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised. The qualification resulting from the sample and its duplicate

non-compliant RPD apply only to the sample and it's duplicate and is analyte specific.

- If the RPD is outside the control limit, then qualify the sample and its duplicate with **J** for detected compounds and **UJ** non-detects.
- The descriptor **f** is used to indicate RPD failure.

Inorganic Validation Guidelines

Sample Preservation

- As a rule, all samples are required to be preserved at a temperature of 4 degrees Celsius, plus or minus 2 degrees. Additional preservation criteria are method-specific. The temperature criterion applies to all samples except ICP metals and mercury in a water matrix, which are exempt from temperature preservation.
- Samples placed in a cooler and transported directly to the laboratory with short transit times (less than 4 hours) do not allow for temperature equilibration. The temperature of samples with short transit time must be below ambient temperature with evidence of cooling in progress (ice or ice-substitute present).
- Samples with temperatures in excess of six degrees Celsius but less than or equal to 12 degrees Celsius are qualified **J** for detected analytes and **UJ** for non-detects.
- Samples in gross excess (more than 12 degrees) of the temperature criteria are qualified J for detected analytes and non-detects are qualified **R**.
- The descriptor **t** is used to indicate sample temperature qualification.

Holding Times

- Holding times are measured from the sampling date.
- Holding times for inorganic compounds vary from 24 hours for analyses such as chromium VI and pH to six months for ICP metals. Results produced from analyses performed beyond the holding time are qualified as estimated **J** for detected values and **UJ** for nondetects.
- If holding times are grossly exceeded (greater than 2 times the normal holding time), then positive results are qualified **J** and non-detects are qualified **R**.
- The descriptor **e** is used to denote holding time violations.

Blanks

- Equipment blanks and/or laboratory blanks are evaluated for contaminants.

- Analytes found in associated environmental samples at or below 5 times the blank analyte contamination are qualified **B**.
- Analytes qualified for laboratory blank contamination are denoted with a descriptor **a**.
- Analytes qualified for equipment blank contamination are denoted with a descriptor **k**.

Laboratory Control Sample

- For LCS qualifications, the specific analytes spiked into the LCS sample must always be qualified. All target analytes are spiked into the LCS.
- LCS recovery is above upper limit then **J** detected analytes only. Do not qualify non-detects.
- LCS recovery is below lower limit then **J** positive results and **R** non-detects.
- Analytes qualified for LCS failure are denoted with a descriptor **d**.

Matrix Spike/Matrix Spike Duplicate

The target analytes spiked into the MS/MSD are listed in the project specific QAPP. Each specific MS or MSD spiking analyte that fails recovery criteria produces qualification of the matching analyte in the site associated environmental samples. Where both the MS and MSD fail criteria, qualify based on the least compliant recovery.

- MS/MSD recovery results are not used for qualification if the analyte concentration in the environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.
- If the MS and/or MSD recovery exceed the upper control limit, then **J** detected compounds only. Do not qualify non-detected compounds.
- If the MS and/or MSD recovery falls between the lower limit and 10 percent, then **J** detected compounds and **UJ** non-detects.
- If the MS or MSD recovery is less than 10 percent, then **J** detected analytes and **R** non-detected analytes.
- The descriptor **c** is used to indicate MS/MSD qualification based on the percent recovery of the spiked analytes.
- MS/MSD RPDs are calculated from the analyte concentrations of the MS and MSD. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised.
- MS/MSD RPD results are not used for qualification if the analyte concentration in the environmental sample used for the MS/MSD exceeds the spike concentration by a factor of 4 or more.

- RPD outside the control limit, then qualify the related sample results with **J** for detected compounds and **UJ** non-detects.

- The descriptor f is used to indicate RPD failure.

Field Duplicate Samples

Field duplicate samples are collected to assess the precision of the sample collection and laboratory analytical process. As a rule, both the sample and its duplicate result must be at or above the PQL in order to calculate a meaningful RPD and if both results are below the PQL, the RPD is not calculated. However, if one result is below the PQL (assume zero for a non-detect) and the other result significantly above (10 times) the PQL a RPD is calculated. If the RPD is outside the control limit, the precision is in question, and the accuracy is compromised. The qualification resulting from the sample and its duplicate non-compliant RPD apply only to the sample and it's duplicate and is analyte specific.

- If the RPD is outside the control limit, then qualify the sample and its duplicate with **J** for detected compounds and **UJ** non-detects.

- The descriptor **f** is used to indicate RPD failure.

1.1.3 SUMMARY OF DATA QUALITY OBJECTIVES AND COMPLIANCE

1.1.3.1 Data Quality Objectives

Data quality objectives (DQOs) are qualitative and quantitative statements developed by data users to specify the quality of data from field and laboratory data collection activities. These DQOs must be carefully designed to support specific decisions or regulatory actions. The DQOs describe which data are needed, why the data are needed, and how the data will be used to address the problem being investigated. DQOs also establish numeric limits for the data to allow the data user to determine whether the data collected are of sufficient quality for use in their intended application.

The usability of the data collected during this investigation depends on its quality. A number of factors relate to the quality of data, and sample collection methods are as important to consider as methods used for sample analysis. Following standard operating procedures for both sample collection and analysis reduces sampling and analytical error. Complete chain-of-custody documentation and adherence to required sample preservation techniques, holding times and proper shipment methods ensure sample integrity. Obtaining valid and comparable data also requires adequate QA/QC procedures and documentation, as well as established detection and control limits.

Quantitation limits are based on the extent to which the field equipment, laboratory equipment, or analytical process can provide accurate measurements of consistent quality for specific constituents in field samples. The quantitation limit for a given analysis will vary depending on instrument sensitivity and matrix effects.

1.1.3.2 Precision, Accuracy, Completeness, and Comparability

The effectiveness of a QA program is measured by the quality of data generated by the laboratory. Data quality is judged in terms of its precision, accuracy, completeness, and comparability. These terms are described as follows:

Accuracy

Accuracy is the degree of agreement of a measurement or average of measurements with an accepted reference or "true" value, and is a measure of bias in the system. The accuracy of a measurement system is impacted by the errors introduced through the sampling process, field contamination, preservation, handling, sample matrix, sample preparation, and analytical techniques.

For this project, laboratory accuracy of the measurement data will be assessed and controlled. Results for blanks, matrix spikes, LCS, and surrogates will be the primary indicators of accuracy. These results will be used to control accuracy by requiring that they meet specified criteria. As spiked samples are analyzed, spike recoveries will be calculated and compared to pre-established acceptance limits.

Acceptance limits are based upon previously established laboratory performance for similar samples. In this approach, the control limits reflect the minimum and maximum recoveries expected for individual measurements for an in-control system. Recoveries outside the established limits indicate some assignable cause, other than normal measurement error, and possible need for corrective action. This includes recalibration of the instrument, reanalysis of the QC sample, reanalysis of the samples in the batch, or flagging the data as suspect if the problems cannot be resolved. For contaminated samples, recovery of matrix spikes may depend on sample homogeneity, matrix interference, and dilution requirements for quantification.

Precision

Precision is a measure of agreement among individual measurements of the same property under prescribed similar conditions. When control limits are established for accuracy, it automatically identifies the precision of the method. In the analysis of samples in a preparation batch, if the recoveries of analytes in the LCS are within the control limits, then the precision is also within limits.

Precision is also determined from duplicate sample analysis and MS/MSD analysis. The precision is quantified by the RPD value calculated from the duplicate results.

Completeness

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under correct, normal conditions.

Successful analyses are defined as those where the samples arrived at the laboratory intact, properly preserved, in sufficient quantity to perform the requested analyses, and accompanied by a completed chain-of-custody. Furthermore, the sample must be analyzed within the specified holding time and in such a manner that analytical QC criteria described in this document are met.

Factors that adversely affect completeness include:

- Receipt of samples in broken containers;
- Receipt of samples in which chain of custody or sample integrity is compromised in some way;

- Samples received with insufficient volume to perform initial analyses or repeat analyses, if initial efforts do not meet QC acceptance criteria;
- Improperly preserved samples; and
- Samples held in the field or laboratory longer than expected, thereby jeopardizing holding time requirements.

Completeness for the entire project also involves completeness of field and laboratory documentation, whether all samples and analyses specified in the Sampling and Analysis Plan have been processed, and whether the procedures specified in the SAP, Work Plan, and Laboratory Standard Operating Procedures (SOPs) have been implemented.

Comparability

Comparability expresses the confidence with which one data set can be compared to another data set measuring the same property. Comparability is ensured through the use of established and approved sample collection techniques and analytical methods, consistency in the basis of analysis (wet or dry weight, volume, etc.), consistency in reporting units, and analysis of standard reference materials.

1.1.3.3 Specific Measurement DQOs for Evaluating Data DQO Compliance

1. Precision is expressed in RPD values. Spiked (MS/MSD) and unspiked duplicate field samples are analyzed in order to determine precision.
2. Accuracy is expressed as a percentage of the data outside the QC entity's control limits. The percent recoveries from laboratory control sample spikes, matrix spikes and surrogate spikes are used to determine accuracy.

The samples for this data set were examined to determine compliance with the DQOs. The results are listed below.

The following methods analyzed samples for the BOU PACWELLS project and resulted in usable data of known precision and accuracy except as listed below. Several analytes had detections below the PQL and are defined as an estimated value. All of these detections are usable data.

Method E314.0 for Perchlorate

No QC issues were detected.

Method E1625C for low level N-Nitrosodimethylamine

Sample MW-6 had a detection of 170 ng/L and was above the instruments calibration range. The result is qualified as estimated. The datum is usable for its intended purpose.

Method SW8270C SIM for 1,4-Dioxane

No QC issues were detected

Method 524.2 for 1,2,3-Trichloropropane

No QC issues were detected.

Method SW6010B/SW7470A for Title 22 Metals

See Section 1.1.3.7 Blank Contamination below

Method 200.8 for Iron and Manganese

No QC issues were detected.

Method 218.6 for Hexavalent Chromium

No QC issues were detected.

Method SW8260B for Volatile Organic Compounds

Field duplicate RPD values for 1,1-Dichloroethene were qualified as estimated in samples MW-5 and MW-5A. The estimated data is usable for its intended purpose.

See Section 1.1.3.7 Blank Contamination below

Method 300.0 for Common Inorganic Ions

No QC issues were detected.

Method 376.2 for Sulfide

No QC issues were detected.

Method SM 4500-O for Dissolved Oxygen

See Section 1.1.3.6 Holding Times below

1.1.3.4 Completeness

The completeness of this data set was above the DQO criterion of 90 percent. The DQO was satisfied.

1.1.3.5 Data Gaps

All data are usable for their intended purpose. No data gaps exist.

1.1.3.6 Holding Times Compliance

All holding times were within criteria except for Dissolved Oxygen results for sample MW-7. Sample MW-7 Dissolved Oxygen result is qualified as estimated. The datum is usable for its intended purpose.

1.1.3.7 Blank Contamination

Method SW6010B samples MW-5, MW-5A, MW-6, MW7, and MW-3 were qualified for method blank contamination for analytes Copper and Molybdenum. The data is generally not usable.

Method SW8260B samples MW-5 and MW-7 were qualified for field blank contamination for Acetone. The data is generally not usable.

Method SW8260B sample MW-8 was qualified for field blank contamination for Methylene Chloride. The data is generally not usable.

1.1.3.8 Other QC Problems

None to report.

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